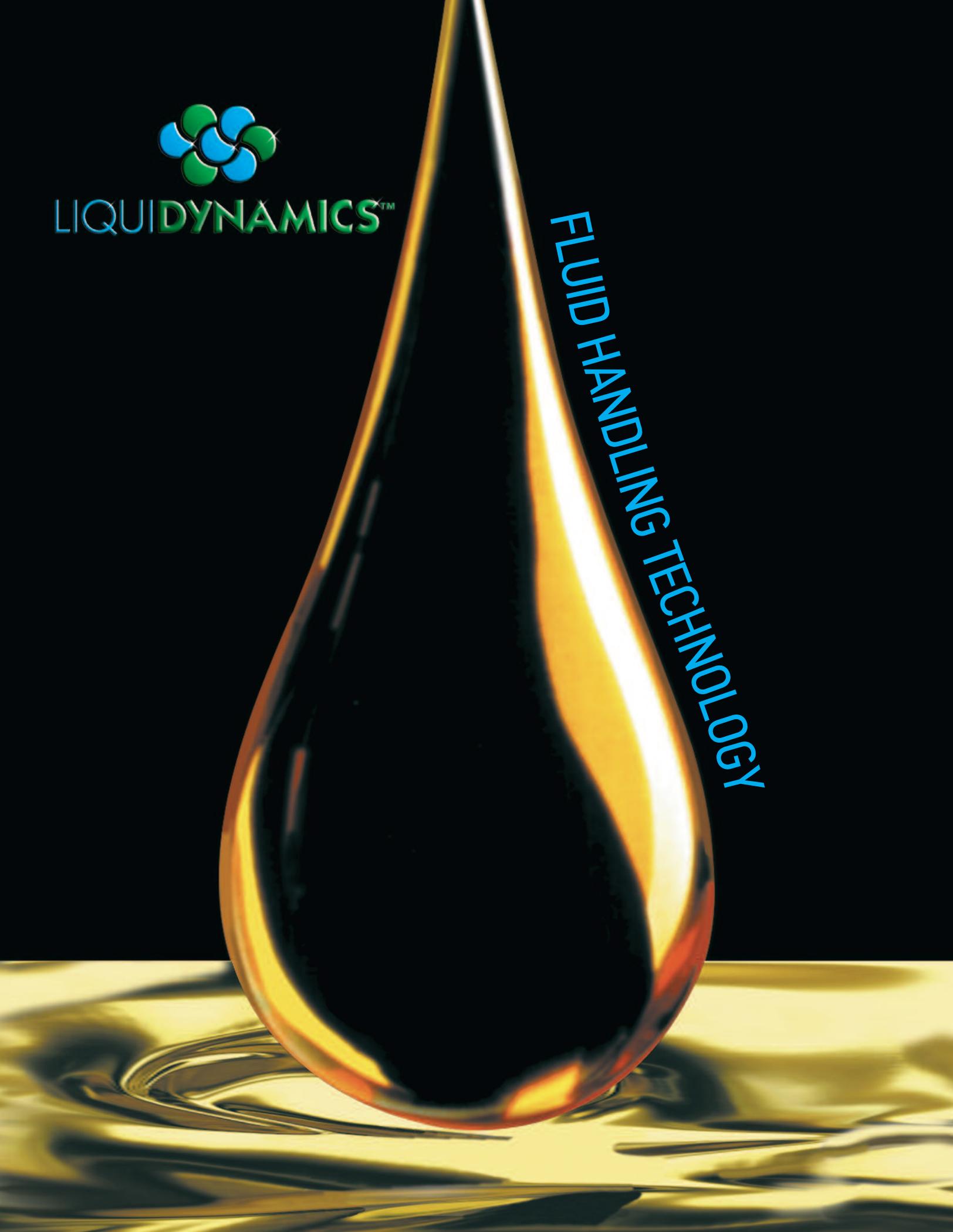




LIQUIDYNAMICS™

FLUID HANDLING TECHNOLOGY





LIQUIDYNAMICS™

FLUID HANDLING TECHNOLOGY

Our Company

Since the founding of LiquidDynamics in 1996, we have experienced tremendous growth, thanks to our many loyal customers. At that time we pledged to provide excellent products, service and value. With this updated catalog, we continue this tradition by introducing a significantly improved product line in terms of reliability, performance and value.

In addition to product improvements and the introduction of many new items, we are proud to be able to offer an excellent value for your dollar.

Consistent with our goal of providing our customers with innovative products, you will find many new, unique and interesting items within the following pages.

With the foregoing in mind, we would like to renew our commitment to provide our customers with superior products and service. LiquidDynamics will continue to provide products and customer service second to none in quality and performance, while remaining competitively priced.

As always, we are interested to hear from you if there is anything that we can do to better serve you.

Sincerely,

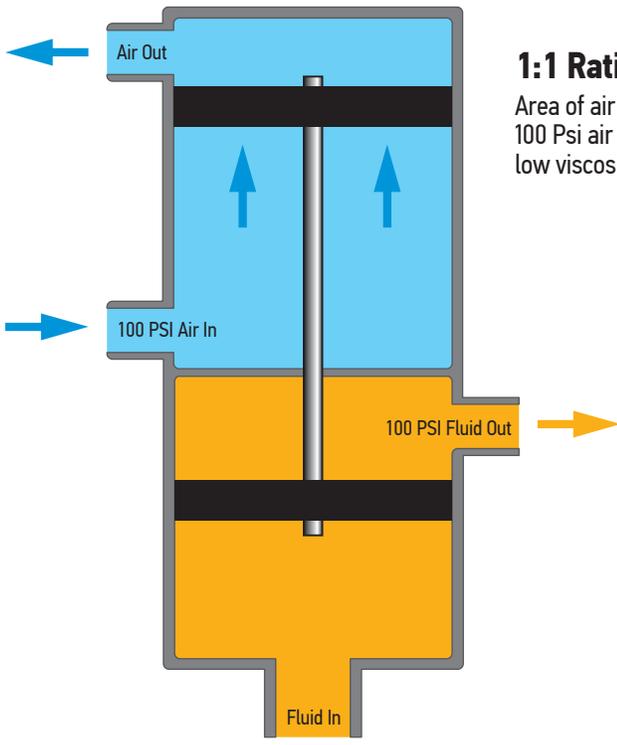
Frank Russold
President



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AIR OPERATED PUMP RATIOS EXPLAINED

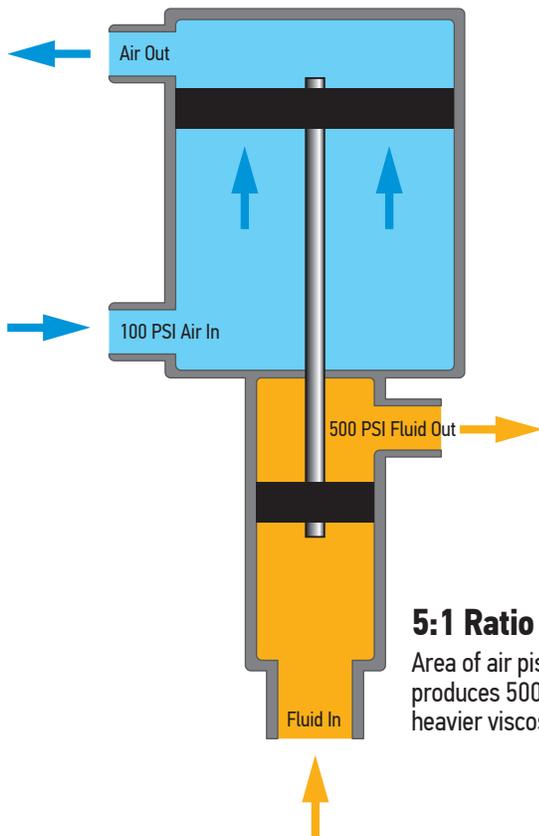
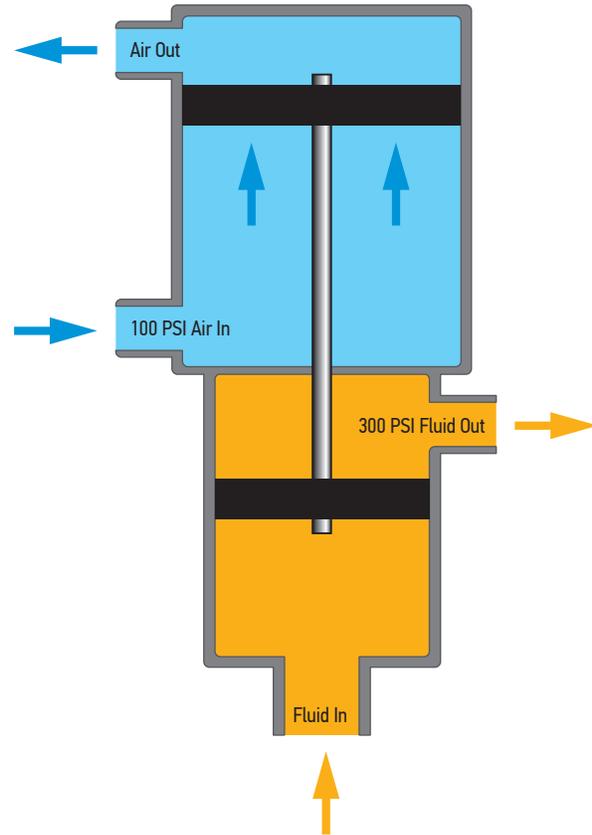


1:1 Ratio

Area of air piston is equal to area of fluid piston, therefore as an example - 100 Psi air pressure produces 100 PSI of fluid pressure. Ideal for pumping low viscosity fluids over short distances, typically less than 100 ft.

3:1 Ratio

Area of air piston is 3 times area of fluid piston, therefore 100 PSI of air pressure produces 300 PSI of fluid pressure. This is ideal for pumping low and medium viscosity fluids for distances of approximately 150 ft.

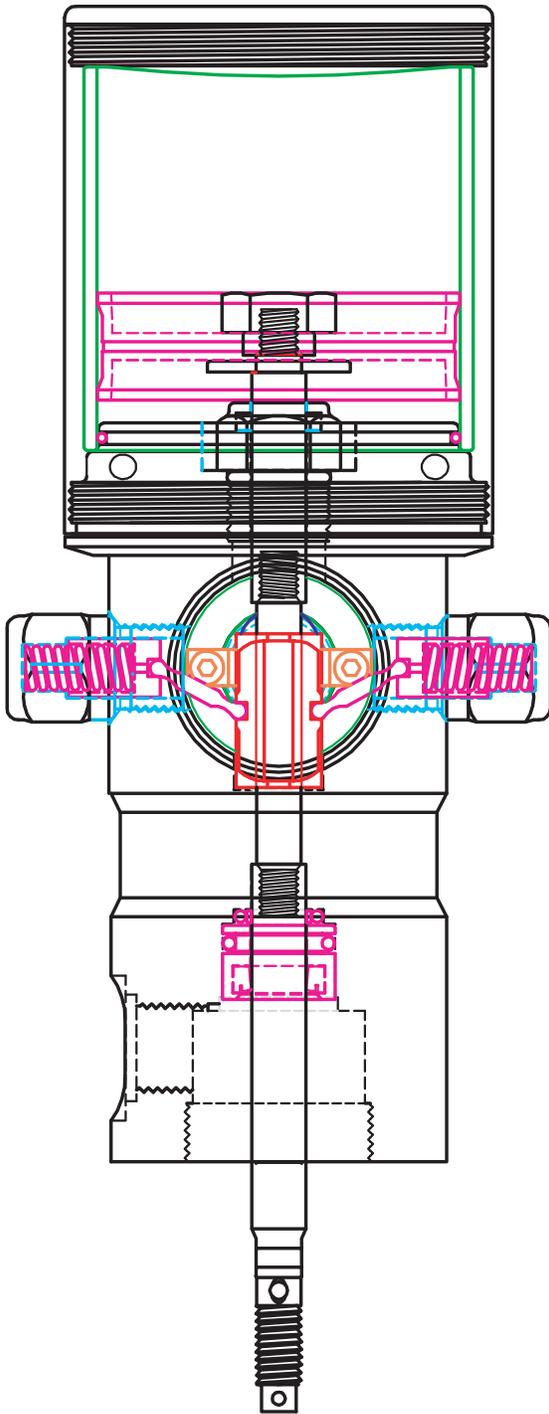


5:1 Ratio

Area of air piston is 5 times area of fluid piston, therefore 100 PSI of air pressure produces 500 PSI of fluid pressure. This is ideal for pumping low, medium and heavier viscosities for distances of 200 ft. or more.

NEW OIL PUMP SELECTION GUIDE

Oil Pump Selection Guide



Pressure Ratio 1:1

P/N **32091, 32095, 32071, 32072**

AND **D.D. Pumps**

The 1:1 piston pumps are an economical way to transfer new engine oil, hydraulic fluid, transmission fluid and 100% antifreeze for distances of approximately 100 ft. or less.

Double Diaphragm pumps are ideal for transfer of used oil, as well as fluids mentioned above. Maximum output pressure is 120 PSI.

Pressure Ratio 3:1

P/N **20001T, 20073T AND 20094T**

An excellent choice for pumping engine oil, gear oil, hydraulic fluid, transmission fluid and antifreeze over distances of up to 150 ft. These pumps will service several dispensing points simultaneously. Maximum output pressure is 360 PSI.

Pressure Ratio 5:1

P/N **21100T, 21073T AND 21094T**

These pumps will do everything the 1:1 and 3:1 pumps do, but can be used to transfer fluid up to 200 ft. and will still service several dispensing points simultaneously. Maximum fluid pressure output is 600 PSI.

High Volume 5:1 Ratio Pumps

P/N **21200 AND 21300**

These pumps also have a maximum fluid pressure output of 600 PSI but have flow rates more than twice the output of normal 5:1 pumps. These pumps are an excellent choice for high flow applications in truck shops or industry where multiple dispense points are required.

High Ratio Oil Pumps

P/N **21400 AND 21500**

Higher ratio oil pumps provide additional capability when dealing with long distance oil dispensing, higher viscosities, unusual line restrictions or a combination of these factors. The 21400 pump is a 8:1 ratio pump with flow rates up to 5.5 GPM while the 21500 is a 13:1 ratio pump with a flow rate of 4 GPM. These are both universal stub pumps that can be easily adapted to fit most any tank or drum application.

NEW OIL

PNEUMATIC PUMPS

ELECTRIC PUMPS

METERS & HANDLES

FLUID MGMT.

TANKS & SYSTEMS

MOBILE SYSTEMS

HAND PUMPS

PNEUMATIC OIL PUMPS

NEW OIL

PNEUMATIC PUMPS



Part Number (w/o Bung Adapter)	32091	32095	32071	20001T	20073T	20094T
Part Number (w/ Bung Adapter)	32091-S1	32095-S1	32071-S1	20001T-S2	20073T-S2	20094T-S2
Ratio	1:1	1:1	1:1	3:1	3:1	3:1
Flow Rate @ 90 PSI (GPM)	5	5	15	5	5	5
Maximum Air Pressure (PSI)	120	120	120	120	120	120
Air Inlet Size	1/4" NPT					
Fluid Inlet Size	1" NPTF					
Fluid Outlet Size	1/2" NPTF	1/2" NPTF	3/4" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF
Noise	79 db					
Air Consumption (cfm)	12	12	12	12	12	12
Suction Tube Diameter	1.65"	1.65"	1.65"	1.65"	1.65"	1.65"
Suction Tube Length	11"	37"	11"	11"	29"	37"
Fits Drum Sizes (Gal.)	Universal	55	Universal	Universal	16/30	55
Shipping Weight, lbs.	11	14	13	10	13	15

Note: For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator, or minimally an air filter, is advantageous. See page 11 for our selection of air regulators, separators (filter) and dryers.

PNEUMATIC OIL PUMPS



Part Number (w/o Bung Adapter)	21100T	21073T	21094T	21200	21300	21400	21500
Part Number (w/ Bung Adapter)	21100T-S2	21073T-S2	21094T-S2	21200-S1	21300-S1	21400-S2	21500-S2
Ratio	5:1	5:1	5:1	5:1	5:1	8:1	13:1
Flow Rate @ 90 PSI (GPM)	5	5	5	8	11	5.5	4.0
Maximum Air Pressure (PSI)	120	120	120	120	120	120	120
Air Inlet Size	1/4" NPT	1/4" NPT	1/4" NPT	3/8" NPT	3/8" NPT	3/8" NPT	3/8" NPT
Fluid Inlet Size	1" NPTF	1" NPTF	1" NPTF	1½" NPTF	1½" NPTF	1" NPTF	1" NPTF
Fluid Outlet Size	1/2" NPTF	1/2" NPTF	1/2" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF
Noise	79 db						
Air Consumption (cfm)	12	12	12	18	21	21	22
Suction Tube Diameter	1.65"	1.65"	1.65"	2"	2"	2"	2"
Suction Tube Length	11"	29"	37"	15"	17"	11"	11"
Fits Drum Sizes (Gal.)	Universal	16/30	55	Universal	Universal	Universal	Universal
Shipping Weight, lbs.	12	14	16	19	21	22	24

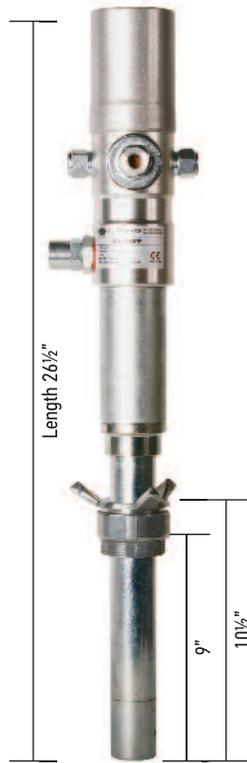
Note: For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator, or minimally an air filter, is advantageous. See page 11 for our selection of air regulators, separators (filter) and dryers.

PNEUMATIC OIL PUMP ACCESSORIES

NEW OIL

PNEUMATIC PUMPS

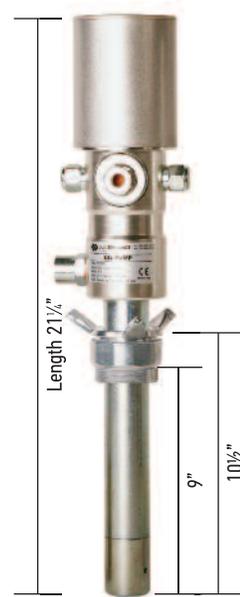
P/N **32091-S1**
1:1



P/N **20001T-S2**
3:1



P/N **21100T-S2**
5:1



Modular Suction Tubes

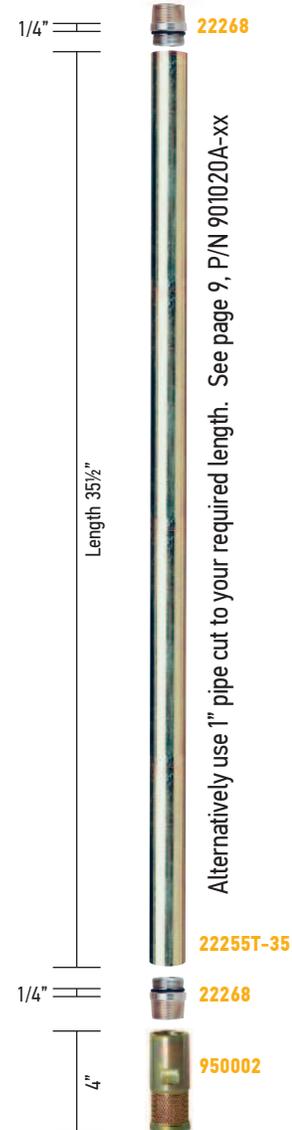
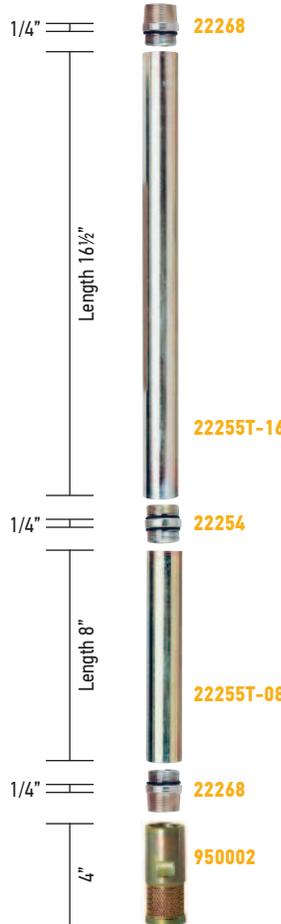
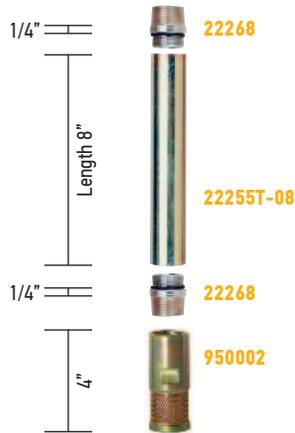
For 1:1, 3:1 and 5:1 Pumps
(Note: Will not fit 21200 & 21300 High Volume Pumps, unless pump inlet is reduced to 1".)

P/N **22255T-08**
Length 8"

P/N **22255T-16**
Length 16"

P/N **22255T-24**
Length 24"

P/N **22255T-35**
Length 35"



Alternatively use 1" pipe cut to your required length. See page 9, P/N 901020A-XX

NOTE: 16 gallon drum depth 27"
30 gallon drum depth 29"
55 gallon drum depth 35"

PNEUMATIC OIL PUMP ACCESSORIES

P/N **21200-S1**
5:1, 8 GPM



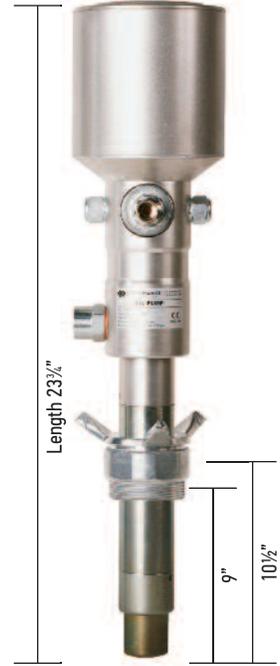
P/N **21300-S1**
5:1, 12 GPM



P/N **21400-S2**
8:1, 5.5 GPM



P/N **21500-S2**
13:1, 4 GPM



900365-0B

22268

1/4"

1/4"

1/4"

1/4"

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1/4"

Length 24"

22255T-24

22268

950002

4 1/4"

950047

P/N **900365-B**

1 1/2" NPTM x 1" NPTF
Reducer Bushing to allow use of modular tubes with 21200 and 21300 pumps. Will fit through 2" bung adapter where normal reducer bushing will not.

Note: Use P/N 900365-B reducer bushing when using modular tubes with P/N 21200 and 21300 pumps.

Use P/N 901021A-XX where "XX" specifies suction tube length.

PVC Extension Pipes

Specify length in inches (e.g.; 901020A-16 designates a 1" PVC pipe 16" long.)

P/N **901020A-XX**
1" PVC Pipe, Sch 80, Threaded

P/N **901020A-XXA**
1" PVC Pipe, w/ 45° end, Sch 80

P/N **901021A-XX**
1 1/2" PVC Pipe, Sch 80, Threaded

P/N **901019A-XX**
3/4" PVC Pipe, w/ 45° end, Sch 80



P/N 950065 shown

P/N **950065**

Suction tube kit to fit 55 gal. drum includes 35" suction tube, foot valve, bung adapter, 90 degree elbow and 1"x 6' suction hose.

P/N **950064**

Suction tube kit, 44" deep to fit 275 gallon oval tanks and totes.

OIL PUMP ACCESSORIES

P/N **22159**

Bung Spacer, 2" NPT w/ 3/8" return port for use w/models 1:1, 3:1 and 5:1 pumps. Provides convenient return path for relief valve kits.



2" Double Tap Connection with Return Port:

P/N **540035**

with 1" NPTF Suction, 1" NPTM Pump Connection & 3/8" Relief Valve Return Port.



P/N **540036**

with 1 1/2" NPTF Suction, 1 1/2" Pump Connection & 3/8" Relief Valve Return Port. To allow use with P/N 21200 and 21300 pumps.

2" Double Tap Duplex Bushing:

P/N **540038** 2" x 1" x 1"

P/N **540039** 1 1/2" x 1" x 1"



Bung Adapters:

P/N **22156**

Standard duty 2" bung adapter fits 1:1, 3:1 and 5:1 pumps.



P/N **22157**

Heavy duty 2" bung adapter fits 1:1, 3:1 and 5:1 pumps.



P/N **22158**

Heavy duty 2" bung adapter for 5:1 high flow pumps 21200, 21300, and high ratio pumps 21400 and 21500.



P/N **22157-V2**

Heavy duty weathertight 2" bung adapter fits 1:1, 3:1 and 5:1 pumps.



Foot Valves:

For use with modular tubes and NPT extension pipe, includes inlet screen.

P/N **950002** 1" NPTF

P/N **950047** 1 1/2" NPTF



Expansion/Thermal Relief Valve Kits:

All fluids are subject to thermal expansion, this can be a significant problem in any shop and may be the cause of leaks, blistered hoses, dripping meter/control handles, stiff and hard to pull triggers on control handles and many other related problems. This is especially the case when fluid is pumped from outside or basement locations or when fluid lines are near ceilings subject to heating. Pressure has been measured to increase approximately 43 PSI per degree Fahrenheit in a typical hose reel. These potential over pressurization problems can be easily remedied with the installation of a thermal expansion relief kit, so as to limit fluid line pressure buildup. Listed below is a selection of applications.

Used on installed plumbing for relief of excessive pressure, due to fluid temperature rise.

150 PSI Relief Valve Kits, for use with 1:1 and Double Diaphragm Pumps

P/N **540043**

Relief valve kit for 1/2" discharge pumps

P/N **540044**

Relief valve kit for 3/4" discharge pumps

P/N **540045**

Relief valve kit for 1" discharge pumps



P/N **540060**

Brass relief valve for use with water based products. Adjustable from 20 to 300 PSI.

750 PSI Relief Valve Kits, for use with 3:1 and 5:1 Ratio Pumps

P/N **540025**

Relief valve kit for 1/2" discharge pumps

P/N **540037**

Relief valve kit for 3/4" discharge pumps

For Fuel Systems

P/N **540050**

1/2" expansion relief valve for fuel systems, 40 PSI relief pressure.

1500 PSI Relief Valve Kits, for use with 8:1 and 13:1 Ratio Pumps

P/N **540046**

3/4" NPTM x 3/4" NPTF for easy connection to pump. Use with P/N 22159 bung spacer for convenient fluid return port.



AIR FILTERS, REGULATORS AND LUBRICATORS

Aluminum die cast construction provides a rugged housing that is compact and modular in design. Space requirements are reduced by combining the regulator and filter into one unit and incorporating the pressure gauge into the body.

These air regulators have a maximum operating input pressure of 150 PSI and a regulating pressure range of 7 to 120 PSI. The filter element is rated at 5 micron and should be changed yearly or when a pressure drop of 15 PSI is reached.

P/N 540235

Air filter/regulator lockout to prevent unauthorized adjustment of air pressure regulator. Uses any user supplied key or combination lock with a hasp diameter of 0.30" or less.



Note: Filter/regulator and lock not included.

Mini FRL Combo Unit - 150 PSI

Maximum 150 PSI input pressure. Recessed pressure gauge included, manual drain.

P/N 540200-G

1/4" Mini Filter/Regulator/Lubricator combination w/gauge

P/N 540203-G

3/8" Mini Filter/Regulator/Lubricator combination w/gauge

P/N 540120-G

3/4" Filter/Regulator w/gauge



Mini Filter/Regulator - 150 PSI

Maximum 150 PSI input pressure. Recessed pressure gauge included, manual drain.

P/N 540201-G 1/4" Filter/Regulator w/gauge

P/N 540204-G 3/8" Filter/Regulator w/gauge

P/N 540207-G 1/2" Filter/Regulator w/gauge

Individual components as shown above, maximum input pressure 150 PSI.

P/N 540202 1/4" Mini Lubricator

P/N 540205 3/8" Lubricator

P/N 540208 1/2" Lubricator

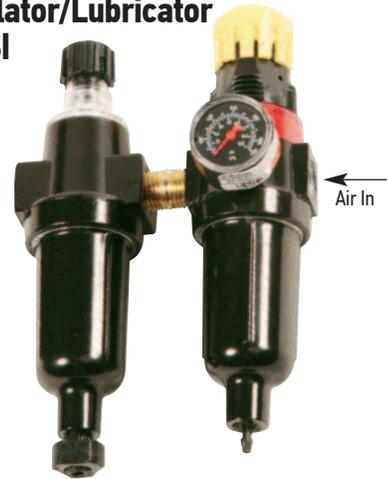


"High Pressure" air filter/regulators and lubricators are necessary when air pressure supplying these devices exceeds 150 PSI, which is the maximum pressure rating for the normal "Low Pressure" filter/regulators. This is the case if you are using a two stage air compressor which typically has a pressure of 220 - 250 PSI.

P/N 540100-G

1/4" Mini Filter/Regulator/Lubricator combination - 250 PSI

This mini combo includes an air filter/regulator and mini lubricator, rated to 18 SCFM with a maximum air input pressure of 250 PSI. Automatic drain.



P/N 540104-G

1/4" Mini Filter/Regulator - 250 PSI

P/N 540103

1/4" Mini Lubricator - 250 PSI

P/N 540112-G

3/8" Modular Filter/Regulator/Lubricator - 250 PSI

Two unit combo air filter/regulator with lubricator provides excellent water removal efficiency and is rated to 40 SCFM with a maximum input pressure of 250 PSI. Automatic drain.



P/N 540115-G

3/8" Modular Filter/Regulator - 250 PSI

P/N 540111

3/8" Modular Lubricator - 250 PSI

P/N 540119-G

1/2" Filter/Regulator w/gauge - 230 PSI

P/N 540215-HP

3/4" Filter/Regulator w/gauge - 230 PSI

Ambient Air Dryers

Removes 99% of all free moisture and includes a built in automatic drain. Excellent solution for "problem" air supplies without the expense of refrigerant or desiccant dryers. Note: Does not lower dew point of air.

P/N 540300 1/4" Ambient Dryer

P/N 540301 3/8" Ambient Dryer

P/N 540302 1/2" Ambient Dryer

P/N 540303 3/4" Ambient Dryer



DOUBLE DIAPHRAGM PUMPS

P/N 20011-Y

1/4" Double Diaphragm Pump with polypropylene body, PTFE diaphragm and seals. Pump is rated at 3.4 GPM maximum flow rate at 100 PSI air supply pressure. Maximum dry suction lift of 5 ft. and maximum discharge distance of 180 ft. (with reduced flow). Suitable for use with windshield washer fluids, antifreeze and other fluids compatible with the materials of construction. Maximum fluid temperature 180° F. Note: Pump will bypass small amount of air when in the stalled condition.



P/N 20025-V

3/8" Double Diaphragm Pump is very compact but has a flow rate exceeding 6 GPM at 100 PSI air pressure input. Has polypropylene body and valve seats with Santoprene diaphragm. Can pass a maximum particle size of 0.10". Fluid inlet and outlet are 3/8" NPTF and has 1/4" NPTF air inlet. Maximum air pressure is 100 PSI.



P/N 20012-V

1/2" Double Diaphragm Pump with polypropylene body, Buna-N diaphragm and seals. Pump is rated at 15 GPM at 100 PSI air supply, dry lift capacity of 8 ft. and maximum discharge distance of 180 ft. (with reduced flow). Suitable for use with antifreeze, fresh and used oil. Maximum fluid temperature 180° F.



P/N 20012-Y2

Same as 20012-V above except pump uses a dual inlet to allow mixing of fluids at 50:50 ratio. Typically used to mix antifreeze and water.

P/N 20015-Y

3/4" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at 27 GPM at 100 PSI air supply, dry lift capacity of 18 ft. and discharge distance of 180 ft. (with reduced flow). Typically used with fresh and used oil. Maximum fluid temperature 180° F.



P/N 20015-Y2

Same as 20015-Y above except it uses a dual inlet to allow mixing of fluids at 50:50 ratio. Typically used to mix antifreeze and water.

P/N 20016-Y

Same as 20015-Y except is UL listed for use with diesel fuel.

P/N 20015-YV

3/4" D.D. Pump w/ vertical manifold allows mounting of pump directly onto tank or drum. Has 1" NPTF inlet fitting. See P/N 950027 on page 107 for complete pump kit to fit 55 gallon drum or 275 gallon oval tank.



P/N 20013-Y

1" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at 48 GPM at 100 PSI, dry lift capacity of 18 ft. and discharge distance of 180 ft. (with reduced flow). Typically used with fresh and used oil. Maximum fluid temperature 180° F.

P/N 20013-Y2

Same as 20013-Y except pump is fitted with a dual inlet to allow mixing of fluids at 50:50 ratio. Typically used to mix antifreeze and water.



P/N 20017-V

Same as 20013-Y except pump is UL listed for use with diesel fuel.

P/N 20018-Y

1 1/2" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at up to 100 GPM at 100 PSI, maximum dry lift suction capability is 18 ft. and maximum size solid to pass is 9/32" (7 mm). Maximum fluid handling temperature is 180 deg. F. Inlet/outlet is tapped with 1 1/2" NPTF ANSI flange. Discharge volume per cycle is 0.73 gal. Shipping weight is 75 lb. Dim. 16.18"W x 27.91"H, air inlet fitting is 1/2" NPTF and requires up to 90 SCFM air supply.



Typical applications include bulk transfer of new and used oil.

P/N 20019-Y

2" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at up to 160 GPM at 100 PSI, maximum dry lift suction capability is 19 ft. and maximum size solid to pass is 5/16" (8 mm). Maximum fluid handling temperature is 180 deg. F. Inlet/Outlet is tapped with 2" NPTF ANSI flange. Discharge volume per cycle is 1.12 gal. Shipping weight is 99 lb., Dim. 18.63"W x 30.67"H, air inlet fitting is 3/4" NPTF and requires up to 180 SCFM air supply. Typical applications include bulk transfer of new and used oil.

DOUBLE DIAPHRAGM PUMP KITS

P/N 950003

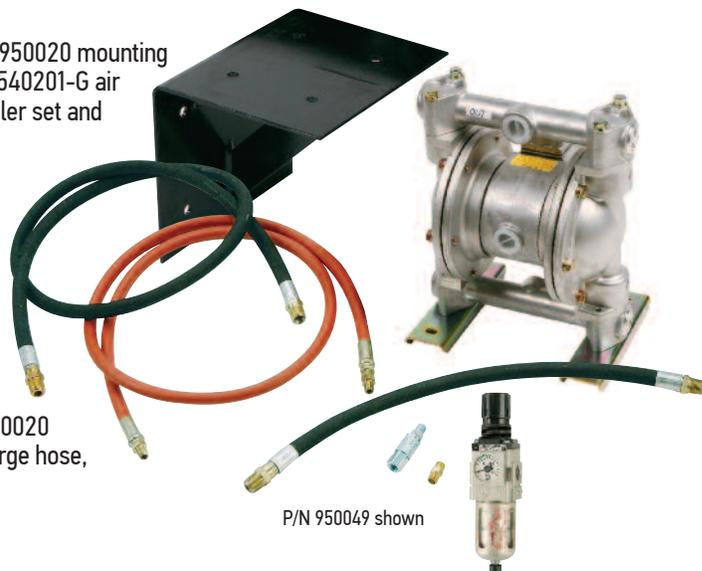
1/2" Double Diaphragm Pump Kit; includes model 20012-V pump, 950020 mounting bracket, 81200-06, 6' suction hose, 81200-06, 6' discharge hose, 540201-G air filter/regulator with gauge, 81100-06, 6' air hose, 900256 air coupler set and appropriate fittings for connection of components.

P/N 950049

3/4" Double Diaphragm Pump Kit; includes model 20015-Y pump, 950020 mounting bracket, 81250-06, 6' suction hose, 81250-06, 6' discharge hose, 540201-G filter/regulator with gauge, 81100-06, 6' air hose, 900256 air coupler set and appropriate fittings for connection of components.

P/N 950051

1" Double Diaphragm Pump Kit; includes model 20013-Y pump, 950020 mounting bracket, 81260-06, 6' suction hose, 81260-06, 6' discharge hose, 540204-G filter/regulator with gauge, 81125-06 6' air hose.



P/N 950049 shown

P/N 950022-55

Convenient kit for use with 55 gallon drums, has 2" male NPT threads to fit drum and tank bungs. Includes 1/2" double diaphragm pump, mounting bracket, hardware, 35" long suction tube and 1/4" air filter/regulator. A 3/8" return port is included in the bung to allow use with a thermal relief valve if desired.



P/N 950022-55 shown

P/N 950022-16

Same as 950022-55 above except has 27" long suction pipe to fit 16 gallon drums

P/N 950022-275

Same as 950022-55 above except has 44" long suction pipe to fit 275 gallon oval tanks and IBC tote tanks.

P/N 950022-330

Same as 950022-55 above except has 44" long suction pipe to fit 330 gallon oval tanks and IBC tote tanks.

P/N 950027-55

3/4" D.D. pump w/vertical inlet manifold kit to fit 55 gallon drum. Kit includes "close" nipple and double tap with 3/8" return port for use with thermal expansion valve kit.



P/N 950027-275

3/4" D.D. pump w/vertical inlet manifold to fit 275 gallon tank. Has 44" long suction pipe, "close" nipple and double tap with 3/8" return port for use with thermal expansion valve kit. Schedule 80 PVC suction pipe can easily be trimmed to fit shorter tank depths

P/N 950027-330

3/4" D.D. pump w/vertical inlet manifold to fit 330 gallon tank, includes 52" long suction pipe.

Double Diaphragm Mounting Brackets

P/N 950019

Wall Mounting Bracket for 1/4" Double Diaphragm Pumps. 4" H x 4 3/4" W x 3" D.

P/N 950020

Wall Mounting Bracket for 1/2", 3/4" and 1" Double Diaphragm Pumps. 10" H x 12" W x 10" D.



P/N 950020 shown

Dry Break Disconnect

P/N 900290

Female 1/2" Dry Break Coupler

P/N 900291

Male 1/2" Dry Break Nipple

P/N 900294

Female 3/4" Dry Break Coupler

P/N 900295

Male 3/4" Dry Break Nipple

P/N 900292

Female 1" Dry Break Coupler

P/N 900293

Male 1" Dry Break Nipple



P/N 900291 shown

P/N 900325-100

Polypropylene "T" Strainer, 100 mesh (150 micron), 3/4" NPTF

P/N 900351-16

Polypropylene "T" Strainer, 16 mesh, 1" NPTF



PNEUMATIC OIL PUMP KITS

P/N **32097-S1**

- 32091, 1:1 Stub Pump
- 22157, Heavy Duty Bung Adapter
- 23104, Spigot



P/N **32099-S1**

- 32095, 1:1 Drum Pump
- 22157, Heavy Duty Bung Adapter
- 23104, Spigot



P/N **32099-S2**

- 32095, 1:1 Drum Pump to fit 55 gallon drums
- 22157, Heavy Duty Bung Adapter
- 23104, Spigot
- 23106, Support Shelf

P/N **32099-S6**

Same as above except includes air filter/regulator.



P/N 32099-S6 shown

(Drum not included)

P/N **23106**

Support/Drip Tray for use with 1:1 Pumps Models 32091 & 32095. Has 3/8 NPTF fitting for drain hose attachment.



P/N **23104**

Self-closing Spigot with connecting elbow for use with 1:1 Pumps, 1/2" NPTM.



STAINLESS STEEL AIR OPERATED PUMPS

Designed for use with windshield washer fluid and pre-mix antifreeze. These pumps are available in two different lengths and pumping ratios to fit most any application as noted below. Bung adapter included.

P/N **32091SS**

1:1 pumps are recommended for pumping distances of approximately 100 ft or less. This universal pump may be wall mounted or adapted to fit most any tank depth by the simple addition of an appropriate length suction pipe and foot valve, 3/4" NPTM inlet.

P/N **32095SS**

This 1:1 pump is designed specifically to fit 55 gallon drums and requires no further modification. It is recommended for pumping distances of 100 ft. or less.



P/N **20001TSS**

3:1 pumps are recommended for pumping distances greater than 150 ft. This universal pump may be wall mounted or adapted to fit most any tank depth by the simple addition of an appropriate length suction pipe and foot valve, 3/4" NPTM inlet.

P/N **20094TSS**

This 3:1 pump is designed specifically to fit 55 gallon drums and requires no further modification. It is recommended for pumping distances of 150 ft. or greater.



WALL MOUNT PUMP KITS

P/N 20001-S7

Wall mounted pump kit to fit 55 gallon drums (37" suction tube)

Includes:

- P/N 20001T, 3:1 Stub Pump
- P/N 22242, Wall Bracket
- P/N 950065, Suction Kit
- P/N 540201-G, 1/4" Air Filter/Regulator

P/N 21100-S7

Same as 20001-S7 above except uses 21100T, 5:1 stub pump

P/N 32091-S7

Same as 20001-S7 above except uses 32091, 1:1 stub pump



P/N 20094-S9

Wall mounted pump kit with direct mount for 55 gallon drum

Includes:

- P/N 20094T, 3:1 Drum Pump
- P/N 22157, Heavy Duty Bung Adapter
- P/N 100200-RA, Electronic Digital Oil Meter
- P/N 42015, Drip Tray
- P/N 81200-06, 1/2" x 6' Connecting Hose
- P/N 43003-30L, 1/2" x 30' Hose Reel
- P/N 540201-G, 1/4" Air Filter/Regulator

P/N 21094-S9

Same as 20094-S9 above, except uses 21094T, 5:1 drum pump



P/N 20001-S8

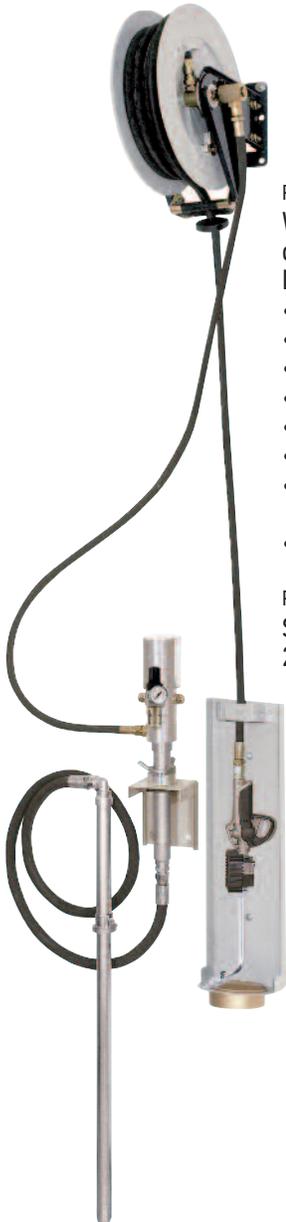
Wall mounted pump kit to fit 55 gallon drums (37" suction tube)

Includes:

- P/N 20001T, 3:1 Stub Pump
- P/N 22242, Wall Bracket
- P/N 950065, Suction Kit
- P/N 43003-30L, 1/2" x 30' Hose Reel
- P/N 81200-06, 1/2" x 6' Connecting Hose
- P/N 42015, Drip Tray
- P/N 100200-RA, Electronic Digital Oil Meter
- P/N 540201-G, 1/4" Air Filter/Regulator

P/N 21100-S8

Same as 20001-S8 above, except uses 21100T, 5:1 stub pump



P/N 20094T-S4

3:1 pump kit to fit 275 gallon oval tank, has 44" long suction tube w/ foot valve

P/N 21094T-S4

5:1 pump kit to fit 275 gallon oval tank, has 44" long suction tube w/foot valve



P/N 22242

Wall Mount Bracket for use with 1:1 (32071 and 32091), 3:1 (20001T) and 5:1 (21100T) Stub Pumps.

P/N 22243

Wall Mount Bracket for use with high flow 5:1 pumps 21200 and 21300.



ELECTRIC MEDIUM PRESSURE OIL TRANSFER PUMPS

These electric oil transfer pumps utilize a gerotor design for quiet operation and self priming capability. They are “manual on” and “manual off” and are intended for the transfer of hydraulic fluid, transmission fluid, used oil, light and medium weight engine oil and 100% antifreeze. These pumps may be used for heavier oils, such as 90 wt. gear oil as long as the oil temperature does not fall below approximately 55° F (80° for model 560087). The pumps are designed to be used with the included suction pipe, discharge hose and control valve and

are not designed to pump fluids through smaller diameter hoses/plumbing, hose reels or metering control valves.

Pump housings are constructed of die cast aluminum for durability and to minimize weight. These pumps have a “center balanced” design to minimize stress on tank and drum mounting hardware and allow easy pump attachment. A fine mesh inlet screen protects pump components from damage and is easily accessed for cleaning without having to remove the pump.

NEW OIL

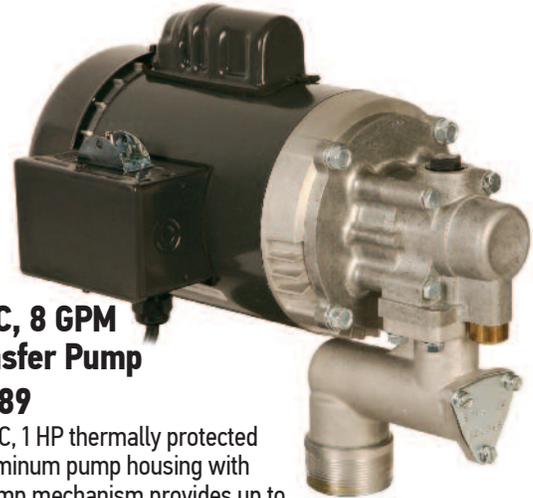
PNEUMATIC PUMPS



115 VAC, 4 GPM Oil Transfer Pump

P/N **560088**

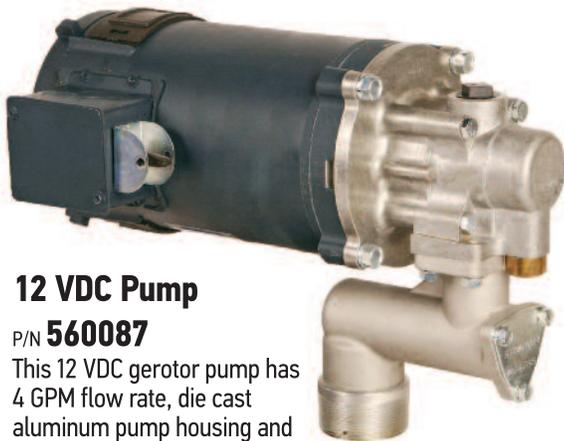
115/230 VAC, ½ HP thermally protected motor, aluminum pump housing with gerotor pump mechanism provides up to 4 GPM flow rate, has 30 minute duty cycle. Pump has 1" NPTF inlet, 3/4" NPTF outlet and is supplied with 36" three prong, grounded power cord, two piece suction pipe (1" x 41"), 3/4" x 8' discharge hose and 3/4" ball valve.



115 VAC, 8 GPM Oil Transfer Pump

P/N **560089**

115/230 VAC, 1 HP thermally protected motor, aluminum pump housing with gerotor pump mechanism provides up to 8 GPM flow rate, has 30 minute duty cycle. Pump has 1" NPTF inlet, 3/4" NPTF outlet and is supplied with 36" three prong, grounded power cord, two piece suction pipe (1" x 41"), 3/4" x 8' discharge hose and 3/4" ball valve.



12 VDC Pump

P/N **560087**

This 12 VDC gerotor pump has 4 GPM flow rate, die cast aluminum pump housing and provides self priming capability. Pump max current rating is 40 amps, requires a 50 amp fuse (not supplied) to protect the motor from overheating, 30 minute duty cycle. Power cord connection requires minimum 10 gauge, 3 wire cable (not supplied – DO NOT EXCEED 15 ft. of cable). Pump kit includes two piece suction tube (1" x 41") which can be easily trimmed to fit your particular installation, 3/4" x 8' discharge hose and 3/4" ball valve.



Oil Transfer Pump Accessory Kit

This accessory kit is included with Oil Transfer Pump P/N's 560087, 560088 and 560089, Kit includes a two piece trim to fit suction pipe, 90° Elbow, 3/4" x 8' Discharge Hose and Poly Ball Valve Nozzle.

ELECTRIC OIL PUMPS

The Liquidynamics family of Electric Oil Pumps are designed to provide an effective alternative solution to pumping viscous fluids such as engine and gear oil, as well as non-viscous fluids such as hydraulic fluid, transmission fluid and 100% (non-mixed) antifreeze. Pumps are intended for indoor use only.

Advantages to using Electric Oil Pump includes; air compressor not being required, quiet operation, non-pulsating flow for

improved metering accuracy and reduced maintenance. Please contact Liquidynamics to ensure correct pump choice for your specific application. Variables to consider when choosing an electric pump include fluid viscosity, fluid temperature, plumbing length, plumbing diameter, suction distance and any pertinent restrictions such as hose reels, control valves, elbows, etc.



P/N 33221 shown

P/N 33221

A great choice for use in transfer of medium and high viscosity fluids up to 2,000 centistoke. Maximum discharge pressure of 170 PSI with full bypass at 240 PSI. Uses specially designed steel gears for efficient and quiet transfer of fluids such as engine oils, gear oils, etc. Manual on/off switch integrated into electrical connection box.

P/N 33222

Same design as P/N 33221 but utilizes a 2.0 HP motor for additional pressure and flow rate capability. Will pump up to 4.0 GPM with pressure up to 325 PSI and is rated for continuous operation. For use with fluids up to 2,000 centistoke.



P/N 33250

This high flow pump has an adjustable bypass for pressures up to 80 PSI and is ideal for transferring larger quantities of light oils, hydraulic and transmission fluids, 100% antifreeze and similar fluids over short distances. Manual on/off switch, 115 VAC motor with short extension cord and plug for easy connection.



20 GPM High Volume Oil Transfer Pump

P/N 33223

Pump is ideal for transferring larger quantities of light weight oil (up to 165 cps), hydraulic fluid, transmission fluid and antifreeze including 50/50. The bronze construction allows this pump to be used for bulk transfer of premix antifreeze as well as other water based fluids.

Pump system includes 2 HP 115/230 VAC motor, 20 GPM pump w/1" NPTF inlet/outlet, 30 mesh inlet strainer, heavy duty rotary ON/OFF switch and 25' of 12 gauge, 3 wire grounded power cord.

If this pump is intended for applications where the discharge flow can be shut off, a bypass valve must be installed to prevent pump and/or motor damage. Order P/N 950057 separately (shown below) for this purpose. Bypass flow should be directed back into tank to prevent fluid and pump from overheating.

Note: Use for pumping non-flammable fluids.

3/4" Bypass Kit

P/N 950057

Bypass kit protects P/N 33223 High Volume Oil Transfer Pump in cases where fluid flow is shutoff at discharge, pump fluid is then bypassed to protect pump and motor from damage. Kit includes 1" x 1" x 1" 'T' fitting and 3/4" preset bypass valve, set at 60 PSI maximum.

Note: plumbing (hose) from bypass valve to tank return is responsibility of user.



ELECTRIC OIL PUMPS WITH SPIGOT – 115 VAC

These 115 VAC Electric Spigot Pumps provide a continuous, smooth stream of fluid and eliminate the pulsations and splashing created by air operated piston or diaphragm pumps. Applications include dispensing of motor oil, gear oil, cutting oil,

ATF, hydraulic fluid, 100% antifreeze and similar fluids. These pumps may be mounted vertically on a 55 gallon drum or horizontally on a tank or wall bracket.



P/N **33221-S1**

Versatile horizontal mount system has excellent priming capability. Ideal for use with deep tanks and wall mount systems. Inlet fitting is 3/4" NPTF.



P/N **33221-S3**

Vertical mount system includes 3.0 GPM electric pump, spigot, 2" double tap, 1"x30" suction pipe and foot valve. Ideal for use with 55 gallon drums and bench tanks.

Part Number	Description	P by-pass	Amps	HP	Shipping Weight	Inlet Dimensions	Discharge Dimensions
33221	2.5 GPM, 170 PSI Max, Manual Shut-off	240	15	1.2	33 lbs.	3/4"	3/4"
33222	4.0 GPM, 230 PSI Max, Manual Shut-off	325	13	2.0	44 lbs.	3/4"	3/4"
33223	20 GPM, 40 PSI Max, Manual Shut-off	80	18	2.0	73 lbs.	1"	1"
33250	7.0 GPM, 80 PSI Max, Manual Shut-off	80	13	1.6	34 lbs.	3/4"	3/4"
560086	2.5 GPM, 650 PSI Max, Manual Shut-off	650	16	1.5	71 lbs.	1"	3/4"
560087	2.5 GPM, 450 PSI Max, Manual Shut-off	450	12	1.0	63 lbs.	1"	3/4"
560088	4.5 GPM, 200 PSI Max, Manual Shut-off	200	12	1.0	60 lbs.	1"	3/4"
560089	9.0 GPM, 200 PSI Max, Manual Shut-off	200	18	2.0	65 lbs.	1"	3/4"

MECHANICAL METERS

Liquidynamics supplies a broad selection of oil meters, control valves and accessories. Preset and non-preset meters are available in both mechanical and electronic versions.

Mechanical Meters Preset and Non-Preset

Accuracy of these meters is +/- 0.65% within the flow range of 0.4 to 4 GPM. Maximum operating pressure is 1,000 PSI.

MODEL **BM03 Non-Preset**

P/N 530100

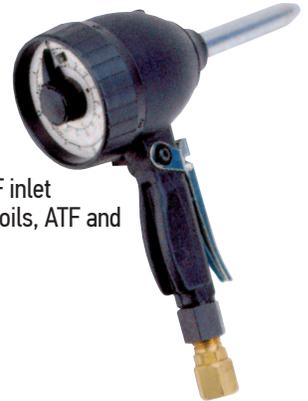
Pint calibration with **8 pint dial capacity** and 1/4 pint graduation, totalizes in pints. Ten inch tall discharge spout is equipped with a 1/4" manual tip designed to allow easy filling of differentials. Inlet is 1/2" NPTF swivel. For use with gear oils.



MODEL **BM08 Non-Preset**

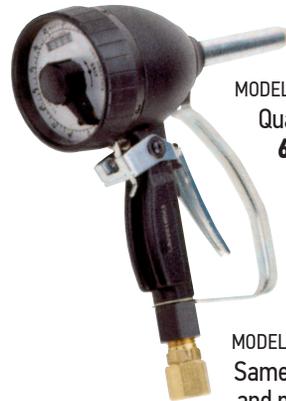
P/N 530101

Quart calibration with **16 quart dial capacity** and 1/4 quart graduations, totalizes in quarts. Rigid discharge spout has an automatic non drip tip. Meter comes standard with 1/2" NPTF inlet swivel. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).



MODEL **BM15 Non-Preset** P/N 530102

Quart calibration with **16 quart dial capacity** and 1/4 quart graduation, totalizes in quarts. Meter comes with a flex discharge spout and manual shutoff tip. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).



MODEL **BM20 Preset** P/N 530109

Quart calibration with preset capability, **60 quart dial capacity**, 1 quart graduations and gallon totalizer.

Comes complete with rigid spout, non drip tip and 1/2" NPTF inlet swivel. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).

MODEL **BM20-HM** P/N 530109-HM

Same as 530109 but **with** 1/2" x 12" hose and manual tip

MODEL **BM20-RH** 530109-RH

Same as 530109 but **with** 4" rigid spout and manual tip, 7" overall length

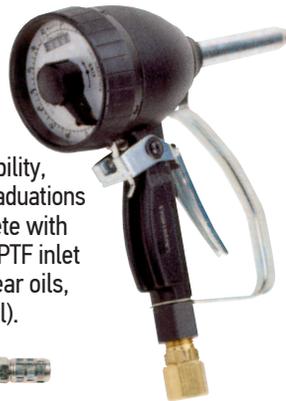
MODEL **BM20-BA** 530109-BA

Same as 530109 but **with** rigid bent spout and automatic tip, 7" overall length

MODEL **BM19 Preset**

P/N 530107

Quart calibration with preset capability, **16 quart dial capacity**, 1 quart graduations and quart totalizer. Comes complete with rigid spout, non drip tip and 1/2" NPTF inlet swivel. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).



MODEL **BM19-HM** P/N 530107-HM

Same as 530107 but **with** 1/2" x 12" hose and manual tip

MODEL **BM19-RH** P/N 530107-RH

Same as 530107 but **with** 4" rigid spout and manual tip, 7" overall length

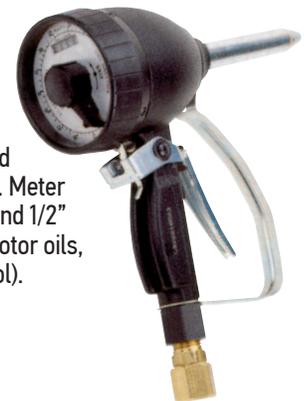
MODEL **BM19-BA** P/N 530107-BA

Same as 530107 but **with** rigid bent spout and automatic tip, 7" overall length

MODEL **BM20G Preset**

P/N 530113

Gallon calibration with preset capability, **60 gallon dial capacity**, 1 gallon graduations and gallon totalizer. 4 GPM maximum. Meter includes rigid spout, non drip tip and 1/2" NPTF inlet swivel. For use with motor oils, ATF and antifreeze (ethylene glycol).

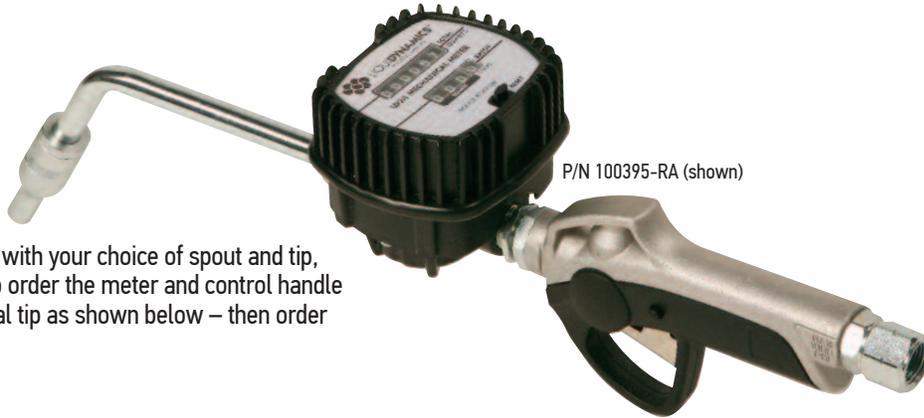


MECHANICAL METERS, NON-PRESET

The Liquidynamics LD25 mechanical meter is designed to be simple and reliable and is intended for use with engine oils, gear oils, ATF, hydraulic fluids and 100% antifreeze. Oval gear technology is used to measure the amount of fluid passing through the measuring chamber. The oval gears then drive a simple mechanical counter to provide high accuracy measurement with low pressure loss. The LD25 has a 4 digit (999.9), resettable batch total, which indicates quarts dispensed and a 6 digit non-resettable, cumulative total, which indicates cumulative gallons dispensed.

A die cast aluminum body provides a strong housing that is rated to 1,000 PSI operating pressure and 3,000 PSI burst pressure.

The control handle features an inlet strainer to protect the valve and oval gears, while a trigger guard prevents accidental activation. A "balanced" valve design reduces trigger pressure and allows gradual starting and stopping of fluid flow. The LD25 mechanical meter is available in a wide variety of nozzle configurations to fit most any application, 0.3 - 8 GPM flow range.



Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100395-FM**.



P/N **100395-RA**
Mechanical Meter **includes** Control Handle, Rigid Spout and Auto Tip



P/N **100395-FA**
Mechanical Meter **includes** Control Handle, Flex Spout and Auto Tip



P/N **100395-RM**
Mechanical Meter **includes** Control Handle, Rigid Spout and Manual Tip



P/N **100395-FM**
Mechanical Meter **includes** Control Handle, Flex Spout and Manual Tip



P/N **100395-RMH**
Mechanical Meter **includes** Control Handle, Rigid Spout and Manual High Flow Tip



P/N **100395-FMH**
Mechanical Meter **includes** Control Handle, Flex Spout and High Flow Manual Tip



P/N **100395-HM**
Mechanical Meter **includes** Control Handle, 3/8"x 12" Hose and 1/4" Manual Tip



P/N **100395-HMH**
Mechanical Meter **includes** Control Handle, 1/2"x 12" Hose and Manual High Flow Tip

ELECTRONIC METERS PRESET

Model K500 Series

The K-500 Electronic Preset Meter may be used to dispense a preset quantity of oil, transmission fluid, hydraulic fluid, antifreeze and other compatible fluids. It is powered by four, field replaceable 1.5V AA batteries. Units of measurement are easily switched between pints, quarts, gallons and liters. The meter flow range is 1/4 to 8 GPM with a maximum operating pressure of 1,000 PSI and an accuracy of +/- 1/2%. Preset capability is from 0.1 to 99.9

units and may be programmed with up to 5 different frequently used preset quantities in addition to quick recall of the last used preset quantity. May also be used to show flow rate in gallons per minute. This preset meter is available with a wide selection of discharge spouts to fit most any application. Discharge spout may be positioned at five different angles and tip rotates 90°. Inlet is 1/2" NPTF swivel.

Spout may be rotated 90° and discharge tip may be rotated 270°

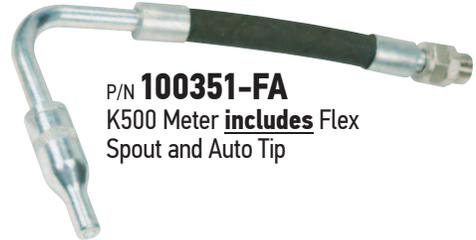
P/N 100351-RSA shown



Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100351-FM**.



P/N **100351-RSA**
K500 Meter **includes** Rigid Spout and Automatic Tip; tip rotates 270°



P/N **100351-FA**
K500 Meter **includes** Flex Spout and Auto Tip



P/N **100351-RM**
K500 Meter **includes** Rigid Spout and 1/4" Manual Tip; tip rotates 270°



P/N **100351-FM**
K500 Meter **includes** Flex Spout and 1/4" Manual Tip



P/N **100351-RMH**
K500 Meter **includes** Rigid Spout and High Flow Manual Tip; tip rotates 270°



P/N **100351-FMH**
K500 Meter **includes** Flex Spout and High Flow Manual Tip

ELECTRONIC METERS – PRESET

Model BP100 Series

This pre-settable electronic meter features a greatly simplified operation; you simply enter the quantity you wish to dispense and pull the trigger. Meter is powered by four AA alkaline batteries which can be easily replaced without loss of calibration

or data. Units of measure displayed can be changed from quarts, to pints, gallons or liters. Inlet is 1/2" NPTF and includes a filter screen to protect the oval gear metering elements. This meter is intended for use with engine oil, gear oil, transmission fluid, hydraulic fluid and 100% antifreeze. 10 GPM maximum.

Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 530125S-FM**.



P/N 530125S-RA shown



P/N **530125S-RA**
Standard Meter **includes** rigid spout and auto tip



P/N **530125S-FA**
Standard Meter **includes** flex spout and auto tip



P/N **530125S-RM**
Standard Meter **includes** rigid spout and manual tip



P/N **530125S-FM**
Standard Meter **includes** flex spout and manual tip



P/N **530125S-RMH**
Standard Meter **includes** rigid spout and high flow manual tip



P/N **530125S-FMH**
Standard Meter **includes** flex spout and high flow manual tip



P/N **530125S-HM**
Standard Meter **includes** 12" flex hose and manual tip



P/N **530125S-HMH**
Standard Meter **includes** 12" flex hose and high flow manual tip

ELECTRONIC METER NON-PRESET

Model LD250 Series

These compact and lightweight, electronic digital meters provide the user with a cost effective method for measuring fluids such as engine oil, gear oil, transmission fluid, and 100% antifreeze (ethylene glycol). Two rotating oval gears are used to provide a simple, reliable method of measurement. Meters are powered by two field replaceable AAA alkaline batteries, with a minimum

one year life expectancy. Accuracy is +/- 0.5% over a flow range of 0.26 to 8 GPM and maximum operating pressure of 1,000 PSI, inlet is 1/2" NPTF swivel. **The units of measure are shown on the LCD display and are easily changed from quarts to pints, gallons or liters, cumulative total indicates gallons (or liters).**

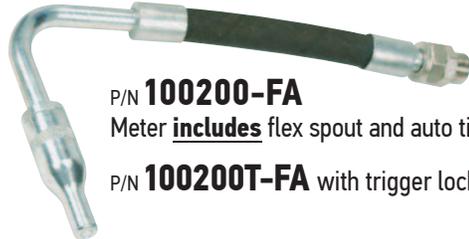
Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100200-FM**.



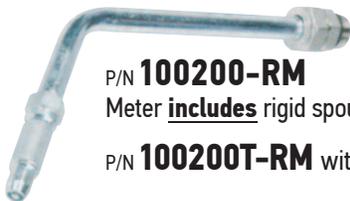
P/N 100200-RA shown



P/N **100200-RA**
Meter **includes** rigid spout and auto tip
P/N **100200T-RA** with trigger lock



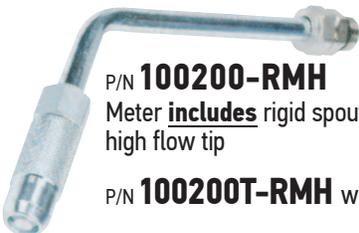
P/N **100200-FA**
Meter **includes** flex spout and auto tip
P/N **100200T-FA** with trigger lock



P/N **100200-RM**
Meter **includes** rigid spout and manual tip
P/N **100200T-RM** with trigger lock



P/N **100200-FM**
Meter **includes** flex spout and manual tip
P/N **100200T-FM** with trigger lock



P/N **100200-RMH**
Meter **includes** rigid spout and manual high flow tip
P/N **100200T-RMH** with trigger lock



P/N **100200-FMH**
Meter **includes** flex spout and manual high flow tip
P/N **100200T-FMH** with trigger lock



P/N **100200-HM**
Meter **includes** 3/8" x 12" hose and 1/4" manual tip
P/N **100200T-HM** with trigger lock



P/N **100200-HMH**
Meter **includes** 1/2" x 12" hose and 1/2" manual high flow tip
P/N **100200T-HMH** with trigger lock

ELECTRONIC METERS NON-PRESET

Model LB300 Series

These meters may be programmed to display pints, quarts, gallons or liters. Power is supplied by a lithium battery with a life expectancy of 3 to 5 years. Flow range is 0.25 to 8.0 GPM and 1,500 PSI operating pressure.

Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 530124-FM**.



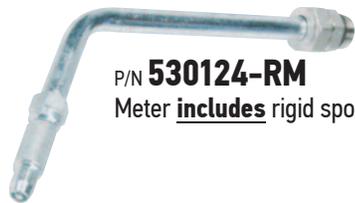
P/N 530124-FM shown



P/N **530124-RA**
Meter **includes** rigid spout and auto tip



P/N **530124-FA**
Meter **includes** flex spout and auto tip



P/N **530124-RM**
Meter **includes** rigid spout and manual tip



P/N **530124-FM**
Meter **includes** flex spout and manual tip



P/N **530124-RMH**
Meter **includes** rigid spout and manual high flow tip



P/N **530124-FMH**
Meter **includes** flex spout and manual high flow tip



P/N **530124-HM**
Meter **includes** 3/8" x 12" hose and 1/4" manual tip



P/N **530124-HMH**
Meter **includes** 1/2" x 12" hose and 1/2" manual high flow tip

Electronic Meter – Pistol Grip, Non-Preset

These meters provide perfect balance and a comfortable grip while being lightweight and rugged. They are designed specifically to dispense Motor Oil, Gear Oil, Transmission Fluid and Anti-Freeze and are a perfect choice for overhead reel systems. Powered by a lithium battery with a typical 5 year life expectancy.



P/N **530115**
Pistol grip electronic meter **includes** rigid spout and auto tip



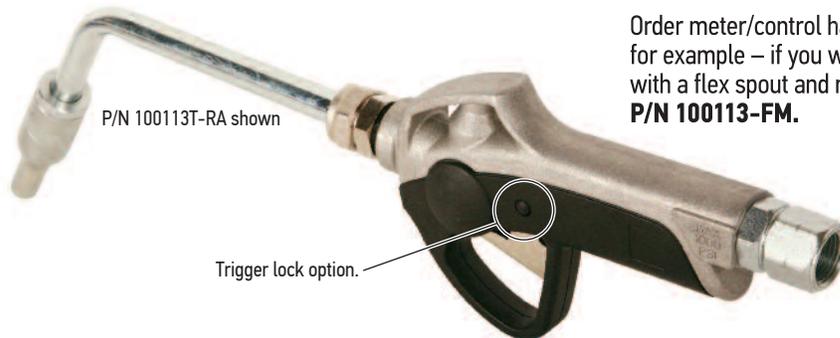
P/N **530116**
Pistol grip electronic meter **includes** flex spout and manual tip

FLUID CONTROL VALVES

Model VN200 Series

These fluid control valves are an economical and reliable method of controlling and dispensing common shop fluids such as engine oil, gear oil, transmission fluid, antifreeze and hydraulic fluid.

The “balanced” valve design with trigger guard allows positive fluid control for easy “topping off” without splashing. The valve is also available in a “trigger lock” version.



P/N 100113T-RA shown

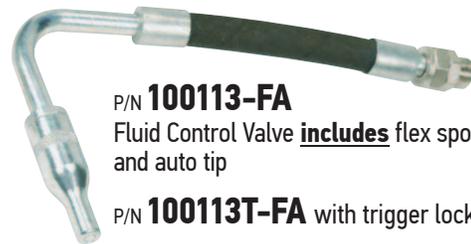
Trigger lock option.

Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100113-FM**.



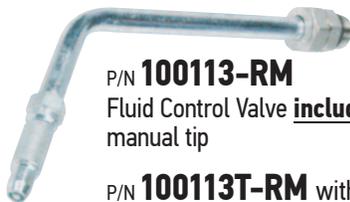
P/N **100113-RA**
Fluid Control Valve **includes** rigid spout and auto tip

P/N **100113T-RA** with trigger lock



P/N **100113-FA**
Fluid Control Valve **includes** flex spout and auto tip

P/N **100113T-FA** with trigger lock



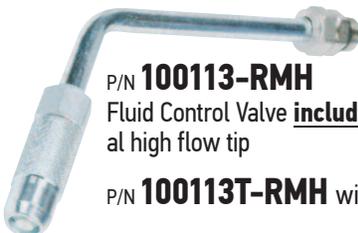
P/N **100113-RM**
Fluid Control Valve **includes** rigid spout and manual tip

P/N **100113T-RM** with trigger lock



P/N **100113-FM**
Fluid Control Valve **includes** flex spout and manual tip

P/N **100113T-FM** with trigger lock



P/N **100113-RMH**
Fluid Control Valve **includes** rigid spout and manual high flow tip

P/N **100113T-RMH** with trigger lock



P/N **100113-FMH**
Fluid Control Valve **includes** flex spout and manual high flow tip

P/N **100113T-FMH** with trigger lock



P/N **100113-HM**
Fluid Control Valve **includes** 3/8" x 12" hose and 1/4" manual tip

P/N **100113T-HM** with trigger lock



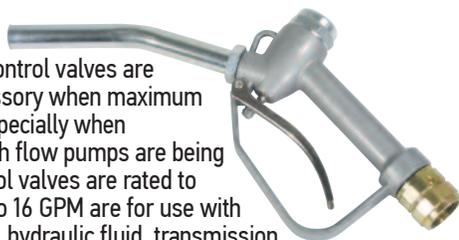
P/N **100113-HMH**
Fluid Control Valve **includes** 1/2" x 12" hose and 1/2" manual high flow tip

P/N **100113T-HMH** with trigger lock

METERS AND ACCESSORIES

P/N **32107**

These high flow control valves are an excellent accessory when maximum flow is desired, especially when Liquidynamics high flow pumps are being used. These control valves are rated to 1,000 PSI and up to 16 GPM are for use with motor oil, gear oil, hydraulic fluid, transmission fluid and 100% antifreeze. They are supplied with a 1" NPTF swivel inlet and your choice of discharge fittings.



P/N **32107-RM**

Control Valve with Rigid Spout and Manual Tip



P/N **32107-FM**

Control Valve with Flex Spout and Manual Tip



P/N **900297**

Lightweight polypropylene ball valve with 8" angled end flange for convenient transfer of liquids into tanks, drums, etc. Uses stainless steel nuts and bolts for a wide range of fluid compatibility. 1" NPTF inlet, 150 PSI max pressure.



P/N **100328**

Fluid control nozzle for use with windshield washer fluid, 50/50 antifreeze, 100% antifreeze and other water based fluids, 1/2" NPTF inlet connection, 20 GPM max. flow rate, 365 PSI max. pressure.



P/N **100329**

Fluid control handle with electronic digital meter designed for use with windshield washer fluid, 50/50 antifreeze, 100% antifreeze and other water based fluids. Meter has LCD display with resettable batch total, and non-resettable cumulative total. Uses 2 ea. 'N' size batteries, 1/2" NPTF inlet, 8 GPM max. flow rate, 365 PSI max. pressure.



High Flow Control Valve and Meter

This meter and control valve combination is rated for flow rates of 1.6 to 15 GPM with a working pressure of 1,000 PSI and is ideal for use with high flow pneumatic ratio pumps such as P/N 21200 and 21300. The meter has a 5 digit re-settable batch total with floating decimal (will record up to 99,999 units) and a 6 digit non re-settable total. Units of measure can be easily changed from quarts to pints, gallons or liters. Valve inlet is 1" NPTF.

P/N **100391R**

Meter/control handle for heavy duty use requiring high flow rates up to 16 GPM. Swivel inlet is 3/4" NPTF with max operating pressure of 1,000 PSI. Flow range is from 1.5 to 16 GPM. Balanced valve design allows easy flow rate adjustment, has rigid discharge spout with "pop" open tip – push to close.



P/N **32110R**

High flow capacity fluid control handle, designed for heavy duty use requiring high flow rates, up to 24 GPM. Control handle has low pressure loss to maximize flow rates and has a balanced valve design to allow easy flow adjustments. Control handle has "pop" open tip – push to close. Max operating pressure is 1,450 PSI, 3/4" NPTF inlet swivel, rigid spout.



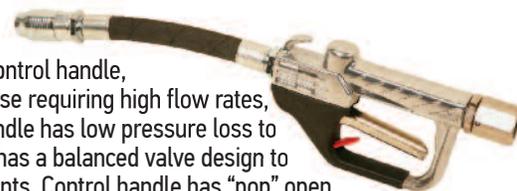
P/N **100391F**

Meter/control handle for heavy duty use requiring high flow rates up to 16 GPM. Swivel inlet is 3/4" NPTF with max operating pressure of 1,000 PSI. Flow range is from 1.5 to 16 GPM. Balanced valve design allows easy flow rate adjustment, has flex hose discharge spout with "pop" open tip – push to close.



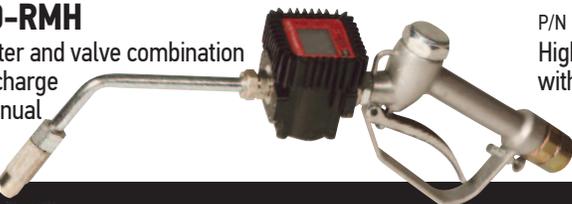
P/N **32110F**

High flow capacity fluid control handle, designed for heavy duty use requiring high flow rates, up to 24 GPM. Control handle has low pressure loss to maximize flow rates and has a balanced valve design to allow easy flow adjustments. Control handle has "pop" open tip – push to close. Max operating pressure is 1,450 PSI, 3/4" NPTF inlet swivel, flex hose spout.



P/N **100390-RMH**

High flow meter and valve combination with rigid discharge spout and manual high flow tip.



P/N **100390-HMH**

High flow meter and valve combination with 12" discharge hose and high flow manual tip.



METER ACCESSORIES

P/N **900245**

Rigid spout with auto tip for use with mechanical meters, 1/2" NPTM



P/N **900246**

Angle spout for mechanical meters, includes 1/2" auto tip.

P/N **900247**

Rigid spout with manual tip for use with mechanical meters, 1/2" NPTM



P/N **81200-01A**

1/2" x 12" Hose, 1/2" NPTM x 1/2" NPTM



P/N **81230A**

3/8" x 12" Hose, 1/2" NPTM x 1/4" NPTM



P/N **81231A**

3/8" x 18" Hose, 1/2" NPTM x 1/4" NPTM

P/N **900268**

Manual high flow tip, 1/2" NPTF (for use with 1/2" hose P/N 81200-01A)



P/N **900268-BSP**

Manual high flow tip, 1/4" BSP (for replacement on rigid and flex spouts)

P/N **900270**

Automatic tip, 1/4" NPTF (for use with 3/8" hose P/N 81230A)



P/N **900270-BSP**

Automatic tip, 1/4" BSP (for replacement on rigid and flex spouts)

P/N **900266**

Manual tip, 1/4" NPTF (for use with 3/8" hose P/N 81230A)

P/N **900266-BSP**

Manual tip, 1/4" BSP (for replacement on rigid and flex spouts)



P/N **100163**

Swivel Guard, Red

P/N **100161**

Swivel Guard, Yellow

P/N **100164**

Swivel Guard, Green

P/N **100160**

Swivel Guard, Blue

P/N **100162**

Swivel Guard, Black



P/N **100138**

Compression Nut Assy.



P/N **900253**

Straight swivel, 1/2" NPTF x 1/2" NPTM, 1,000 PSI working pressure. For use on mechanical meters only.



ELECTRONIC IN-LINE METERS AND PULSERS

A broad range of in-line meters and pulsers are available for use with viscous fluids in the range of 2 to 2,000 cst. Typical fluids include engine oil, gear oil, transmission fluid, hydraulic fluid and other compatible fluids. Material of construction include; aluminum body, chrome plated steel shafts, acetal gears, neodymium magnet and Buna N Seals.

These meters use oval gear technology to provide excellent accuracy and repeatability with very little pressure drop. The

LCD display provides batch and cumulative totals, which are powered by two, type 1N, alkaline batteries. Pulse data is generated by a reed switch, which provides a square wave, switch closure signal. Specific meter and pulser data is detailed in the specification chart on next page.

In-Line Meters w/Display:

P/N **100200**

This compact and economical meter has a flow range of 0.25 to 8.0 GPM, 1/2" NPTF inlet and outlet, operating pressure rating of 1,000 PSI. Units of measure may be easily changed from pints, quarts, gallons or liters. Uses 2 ea. AAA 1.5V alkaline batteries, 3.0"W x 2.6"L x 2.15"H dim. The electronic module can be replaced without removing meter from plumbing line.



P/N **100385**

Compact and economical turbine meter is ideal for use with windshield washer fluid, mixed antifreeze solutions and other water based fluids with low viscosities. Housing is constructed from a conductive polymer to allow static charge dissipation. Display features a rotatable, five digit, re-settable batch total with floating decimal and a six digit non re-settable cumulative total. Units of measure can be easily changed from quarts to gallons, pints or liters, meter is powered by two field replaceable AAA alkaline batteries. 1" NPTF inlet/outlet, 2.7 to 26 GPM.



ELECTRONIC IN-LINE METERS AND PULSERS



P/N 530020
Compact in-line meter has a flow range of 0.25 to 8.0 GPM, has 1/2" NPTF inlet and outlet, operating pressure of 1,500 PSI. Units of measure may be changed from pints, quarts, gallons or liters. Uses a lithium battery for approx. 5 year operating life, 4" Dia. x 2.75" H.

P/N 530021
High flow meter has a flow range from 0.80 to 15 GPM, with a pressure rating of 1,500 PSI which makes it ideal for use with high flow 5:1 pumps as well as the higher ratio 8:1 and 13:1 oil pumps. Functionally it is the same as P/N 530020 described above, but has 3/4" NPTF inlet and outlet threads, approx. 4" dia. x 3.3" high.

P/N 100395
Mechanical in-line meter uses oval gear technology to ensure low pressure drop and high precision and is intended for use with lubricating oils, hydraulic fluids, transmission fluid and 100% antifreeze. The die cast aluminum body is rated to 1,000 PSI working pressure with burst pressure of 3,000 PSI. Measured fluid is displayed via a 3 digit (plus fraction) re-settable batch total which reads in quarts, while the non re-settable totalizer has a 6 digit display reading in gallons. Inlet and outlet fittings are 1/2" NPTF, 3- 8 GPM.



In-Line Pulsers and Remote Display:



P/N 100104 0.25 – 8.0 GPM, 1/2" NPTF, 1,000 PSI maximum

P/N 100360
1.3 – 13.0 GPH, 1/4" NPTF (0.022 – 0.22 GPM), 14,000 PSI maximum



P/N 100370
1.3 – 13.0 GPM, 3/4" NPTF, 435 PSI maximum

P/N 100371
2.6 – 26.0 GPM, 1" NPTF, 435 PSI maximum

P/N 100372
4.0 – 40.0 GPM, 1 1/2" NPTF, 290 PSI maximum

P/N 100380
Gallon calibration, 1.3 – 13.0 GPM, 435 PSI working pressure, 3/4" NPTF

P/N 100381
Gallon calibration, 2.6 – 26.0 GPM, 435 PSI working pressure, 1" NPTF

P/N 100382
Gallon calibration, 4.0 – 40 GPM, 290 PSI working pressure, 1 1/2" NPTF



P/N 100715
Pulsar/solenoid module incorporates a metering pulser and 24V solenoid in one convenient package. Has 1/2" NPTF inlet/outlet.

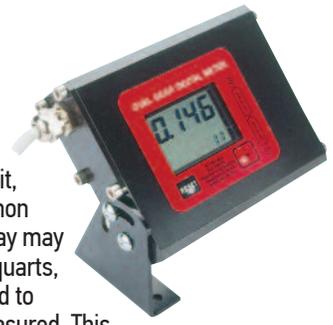


P/N 100715G
Same as P/N 100715 above except has the additional unique feature of a built in bypass that allows the PSM to be bypassed in cases of emergency. This bypass is normally in the closed position and security sealed in place, but can be quickly opened by cutting the wire seal and opening the valve to allow manual dispensing operation if necessary. The security seal provides tamper evidence indicating that the bypass has been opened.

Remote Display for In-Line Pulsers:

P/N 100366
Universal remote display has 4 digit, re-settable batch total and 6 digit non re-settable cumulative total. Display may be configured to indicate gallons, quarts, pints or liters and may also be used to display flow rate of fluid being measured. This display can be easily scaled to work with in-line pulsers P/N 100104, 100360, 100370, 100371 and 100372 shown above.

Unit is powered by two AA alkaline batteries which are easily field replaceable.



OIL BAR

Oil bars are ideal for quick and easy dispensing of fluids such as engine oils, gear oils or antifreeze. You may choose one, two or three taps and metering capability.

Each module is supplied with one tap, meter display covers and removable oil drip tray. A drain tube may be easily installed for permanent drain capability. Designed for use with 1:1 pumps.



P/N **23101**
Oil Bar with two dispense point capability. Supplied standard with one tap.



P/N **23102**
Oil Bar with three dispense point capability. Supplied standard with one tap.



P/N **950111**
Electronic Digital Meter kit for Oil Bars P/N 23101 and 23102, uses two AAA alkaline batteries.

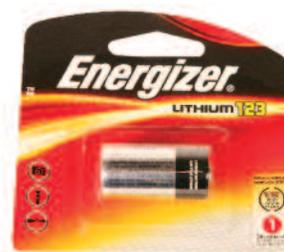
P/N **950112**
Same as above except uses meter P/N 530020, uses long life lithium batteries.



P/N **23105**
Automatic Tap for oil and antifreeze, complete with fittings shown, 1/2" NPTF fitting.



P/N **23108**
Connection hose kit for oil bars.



P/N **BAD-62576-001**
Replacement lithium battery for current production LB300 series meters (battery is Lithium 123 style)

P/N **BAD-62576-001-V1**
Replacement lithium battery for older style LB300 series meters (battery is 1/2 AA size)



OIL COP JUNIOR FLUID CONTROL SYSTEM

NEW OIL



OILCOP Junior

State of the art technology allows the Oil Cop Junior to be the perfect solution for maintaining control of fluid inventory in small shops with limited number of dispense points and fluid types. The Oil Cop Junior system has many of the features found in larger more expensive Fluid Management systems, but is designed to address the needs and concerns of smaller shops. It is simple to install, simple to operate and simple to maintain, while providing the security and traceability shop owners require.

Features such as three security levels of Pin Code assignments (Administrator, Manager and Technician) allows positive control over who is authorized to dispense fluid, assign PIN Numbers, change Pin Numbers, Tank inventory, Tank reorder alarm along with many additional features. The system will allow only those technicians with valid PIN Numbers to dispense fluid and will tie each dispense operation to a work order. The technician can choose to dispense a preset amount or perform a manual dispense. A record of the last 2,000 transactions (date, pin #,

work order, fluid type, fluid quantity) is maintained and can be easily downloaded to a flash drive for transfer to a PC.

Each Oil Cop Junior will handle any combination of 4 hose reels (dispense points) and 4 products, i.e.; one product and 4 dispense points or 2 products and 2 dispense points, etc. Each Oil Cop Junior Console (JRC) is complete with its own keyboard, digital LCD display and 115 VAC power supply that powers not only the Junior Console (JRC), but also feeds power to each Pulser/Solenoid Module (PSM) which can be located up to 1,000 ft. away.

An available optional printer (PRT) can be connected directly to the Oil Cop Junior (JRC), or may be remotely located wirelessly. The printer can be dedicated to an individual Oil Cop Junior Console (JRC) or shared with any number of Junior Consoles wirelessly.

To provide a remote indication of what is being dispensed during a dispensing operation, a brightly lit LED display (RED) is available. This display can be connected wirelessly, or if desired may be hard wired via a two wire connection.

Oil Cop Junior Console (JRC)

P/N 100902

Oil Cop Junior is designed to be a simple system that can be installed and configured by the end user, yet provides comprehensive transaction information for shop owners to efficiently track fluid movement.

The Oil Cop Junior Console (JRC) provides the ability to set up the Junior system with three levels of Pin Code security, set tank product names, set current tank Volumes, set tank alarm levels, pulser/metering calibration and print transaction journals. Additionally, the Junior Console stores up to 999 technician pin



numbers and is used by the technicians to select which fluid to dispense, initiate dispensing operations such as preset dispense, manual dispense and top-off dispense.

The Console can be easily mounted to a wall, beam or any convenient working surface, connect the four wire cable between the Console and the Pulser/Solenoid Module (PSM), plug in the power supply and the system is ready for configuration.

The Oil Cop Junior Console (JRC) can be operated wirelessly or, if desired can be hardwired via a two conductor wire connection to communicate with the printer and remote display.

FLUID MGMT.

OIL COP JUNIOR FLUID CONTROL SYSTEM CONFIGURATION

P/N **100710-XX**
2 Conductor Cable (per foot)
 3000' total maximum length

P/N **100709-XX**
4 Conductor Cable (per foot)
 1000' total maximum length

P/N **100906A** WIRELESS PRINTER
Transaction Printer (TRP)
 Wireless or 2 Wire.

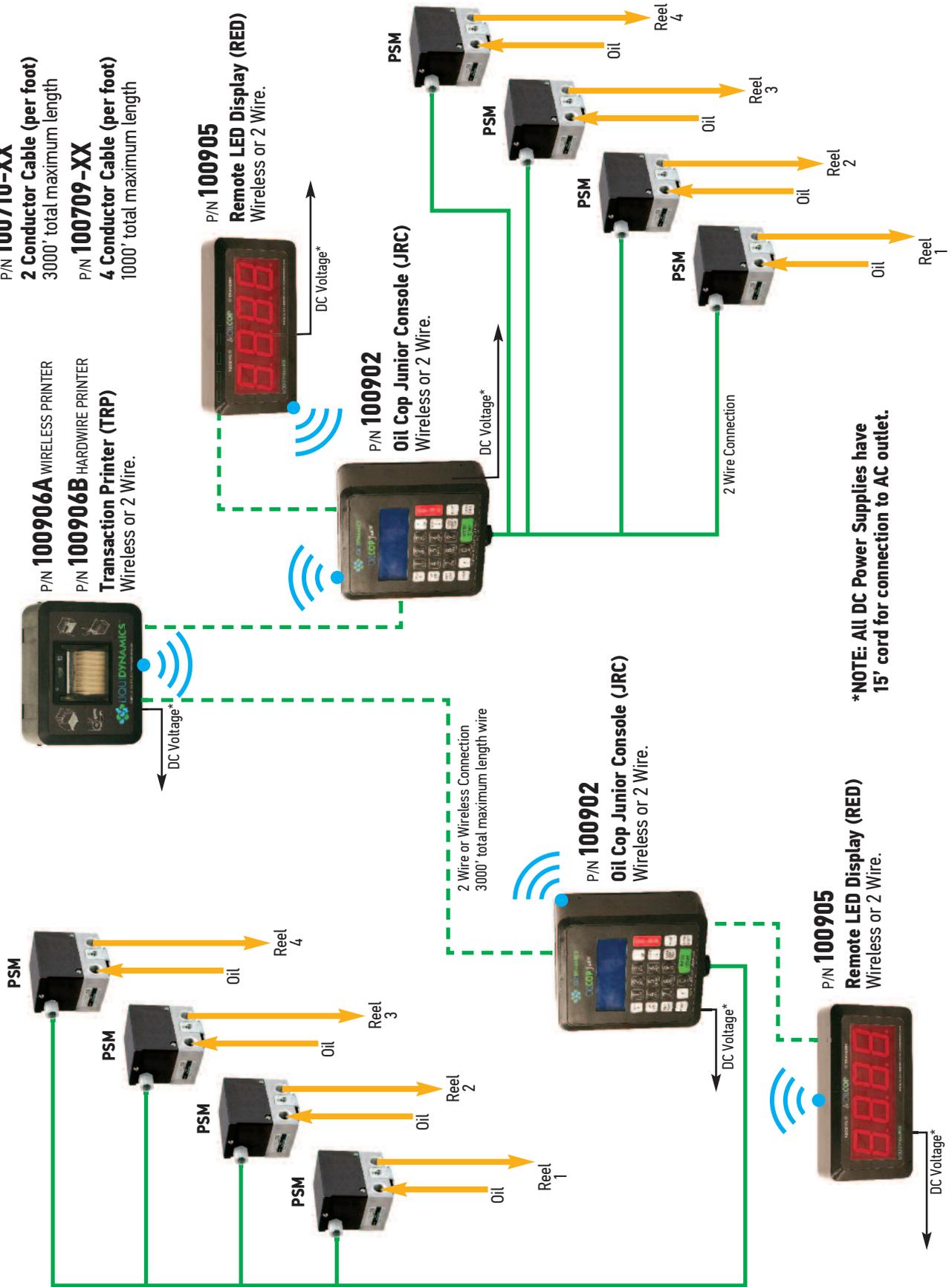
P/N **100906B** HARDWIRE PRINTER
Transaction Printer (TRP)
 Wireless or 2 Wire.

P/N **100905**
Remote LED Display (RED)
 Wireless or 2 Wire.

P/N **100902**
Oil Cop Junior Console (JRC)
 Wireless or 2 Wire.

P/N **100902**
Oil Cop Junior Console (JRC)
 Wireless or 2 Wire.

P/N **100905**
Remote LED Display (RED)
 Wireless or 2 Wire.



***NOTE: All DC Power Supplies have 15' cord for connection to AC outlet.**

OIL COP FLUID MANAGEMENT SYSTEM

NEW OIL



OILCOP

If you have been hesitant to install a fluid management system, or not happy with the complications or features vs. benefits found in currently available fluid management systems, you will be impressed with what the Oil Cop Management System has to offer.

Oil Cop system architecture, both hardware and software, is designed for maximum flexibility and reliability. Importantly, the Oil Cop incorporates independent, self-contained, proprietary software thereby eliminating the need to load software onto existing office computers, which may be subject to conflicts with operating systems, especially when these systems are upgraded over time.

Reliable communication is accomplished via self-healing, wireless mesh technology that achieves maximum reliability, range and coverage. Alternately, the Oil Cop System can easily be hardwired in cases where wireless communication is not appropriate, nor desired. Additionally, an important feature of the Oil Cop Fluid Management system is the flexibility to access the system in many ways, i.e. using PC's on a customer's Local Area Network (LAN) and/or WiFi enabled laptops, tablets or smart phones, thus eliminating the need to purchase additional hardware. Optional "Technician Access Consoles" (TAC's) are also available as input devices for dispensing stations if desired.

An Oil Cop System can accommodate any quantity of dispense points with virtually unlimited distance capability. The modular Oil Cop System can be easily configured to fit any service bay layout requirements including one reel per bay. A single Fluid Command Module (FCM) can control up to four independent dispense points that can operate simultaneously if desired.

Communication speed is not degraded when multiple simultaneous dispensing operations occur since the Oil Cop System incorporates distributive process capability, thereby not

loading down any single module. Each Fluid Command Module (FCM) has on board buffering capability and communicates independently with the Oil Cop Controller (CTR). Dispense operations, simultaneous or otherwise, can be conveniently monitored via any network office computer, smart device, Technician Access Console (TAC) and/or an Oil Cop Remote LED display (RED).

Another unique feature of the Oil Cop System is the mounting of the metering and communications components conveniently near the solenoid control valve and hose reel, rather than at the end of the hose. This has the distinct advantage of protecting this most crucial piece of equipment from damage or abuse. Plus, it eliminates the need to constantly recharge metering control handles, improves communication reliability and eliminates the possibility of damaging and having to replace a very expensive control handle/meter. It also improves operator efficiency by replacing a heavy and bulky control handle with a much lighter and more compact dispensing handle.

Ease of installation is another positive strongpoint of the Oil Cop System, the system is designed to be easily installed by the user. Since it is a wireless system, there are no wires to run from the Controller (CTR) to the Fluid Command Modules (FCM's), or the Remote LED Displays (RED's). The only wire required is a simple, short run, 4 conductor cable connection between the Pulsar/Solenoid Module (PSM) and the Fluid Command Module (FCM). However, in keeping with providing maximum flexibility, the entire system, or portions thereof, can be hard wired if desired, using two conductor cable, making it a simple plug and play installation. An installation wizard provides step by step guidance for system set up and configuration and will automatically establish communication connections as necessary.

FLUID MGMT.

OIL COP FLUID MANAGEMENT SYSTEM COMPONENTS

Fluid Command Module (FCM)

P/N **100901**

Each Fluid Command Module (FCM) operates up to four Pulsar/Solenoid Modules (PSM's) which are typically connected to hose reels for fluid control and monitoring. The FCM's communicate with the Oil Cop Controller (CTR) via self-healing, mesh network wirelessly or, if desired, via two wire current loop. Any portion of the Oil Cop system can be hard wired or used wirelessly in order to achieve maximum reliability and coverage.



Each Fluid Command Module (FCM) includes a 115 VAC power module that is used to power the FCM as well as providing 24 volts to up to four Pulsar/Solenoid Modules (PSM's). The PSM's are quickly and easily connected to the Fluid Command Module (FCM) via a four conductor cable. This four conductor cable provides pulser/metering data to the Fluid Command Module (FCM) as well as power to the solenoids, thus simplifying connectivity immensely.

Oil Cop Fluid Command Modules (FCM's) incorporate communication protocols that allow an unlimited number of FCM's to be connected to the Oil Cop Controller (CTR), providing virtually endless expansion capability as well as full flexibility in system configuration and layout.

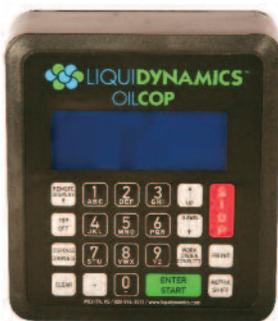
Fluid Command Modules (FCM'S) have on board capability to perform dispensing computations, maintain dispense totals, maintain calibration data, buffer transaction data and participate as a node in the unique, self-healing, Oil Cop mesh network.

Technician Access Console (TAC)

P/N **100903**

In applications where technicians do not have access to a LAN connected computer or lap top, the Technician Access Console (TAC) provides a convenient and reliable way to access the Oil Cop System. This Console allows technicians to enter their pin codes, work orders, odometer readings, preset dispense amounts, select which fluid to dispense and many other vital functions. Feedback from the Console is provided via a high contrast digital LCD display.

The Technician Access Console can operate wirelessly or, if desired can be hardwired via a two conductor wire connection.



Wi-Fi Router

P/N **100855**

This router acts as a bridge between the Oil Cop Controller (CTR) and any smart devices such as smart phones and iPads to allow these devices to communicate with the Oil Cop System. These smart devices can then access any of the FCM's to initiate dispense operations and/or act as a Technician Access Console.



Communications Data Module (CDM)

P/N **100904**

This unit provides a communications interface between the Fluid Command Modules (FCM's) and the Oil Cop Controller (CTR). The Communications data Module (CDM) can be operated wirelessly or may be hardwired via a two conductor cable if desired. The Communications Data Module also serves as a range extender to allow the FCM's to communicate over large distances or in cases where there are electrically noisy environments or metal obstructions. The Communications Data Module is connected to the Oil Cop Controller to download information transmitted from components (i.e. FCMs, tank monitors, etc).



Controller (CTR)

P/N **100854**

The Oil Cop Controller (CTR) is able to communicate with an unlimited number of Fluid Command Modules (FCM's) via a self-healing mesh wireless network or, if desired can be hard wired via a two wire cable. This arrangement assures reliable communication since any, or all portions of the system may operate either hard wired or via wireless. Extended distances can be easily accommodated with the addition of Communication data Modules (CDM's).

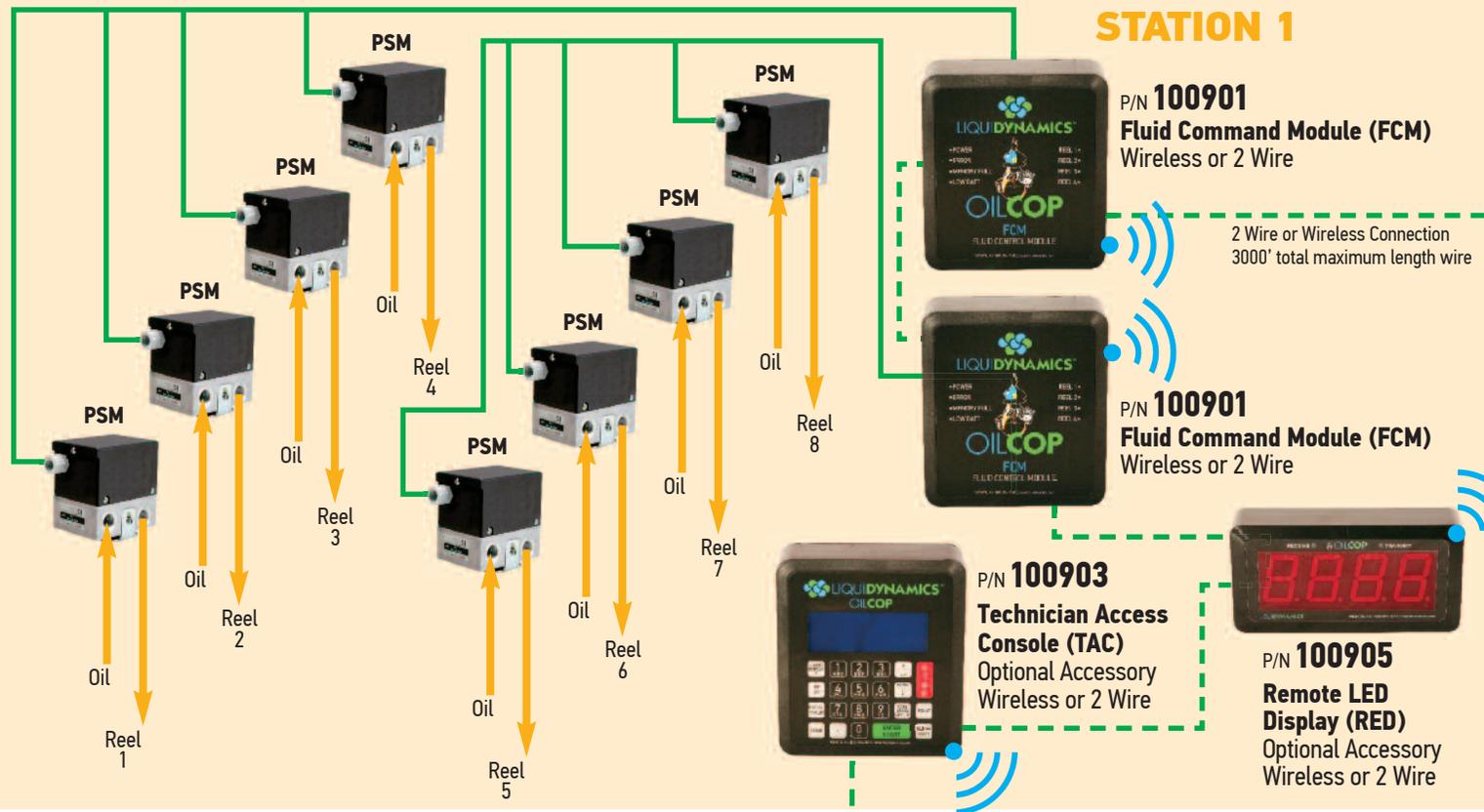
The primary purpose of the Oil Cop Controller (CTR) is to act as a communication hub and control center for the Oil Cop system. It records and stores transaction information such as User ID, date and time of dispense, fluid type, dispense amount, work order, oil inventory, etc. all in a dynamic relational database that allows for flexible report generation. A unique feature of the Oil Cop system is that any smart device with internet connectivity such as iPads, iPhones, laptops or internet connected computers can access the Oil Cop System. When the Oil Cop Controller (CTR) is connected to an office network, the Oil Cop System can be accessed by any computer on the network, the system also allows integration with 3rd party management software systems. In addition, if the Oil Cop Controller is connected to the internet, it can email various reports and alarm conditions as well as receive software updates.

The Controller (CTR) contains all operational firmware, eliminating the need to install application software on office computers accessing the Oil Cop System. A powerful start-up wizard is embedded in the Controller (CTR) which prompts the system administrator through the set up procedure and configuring automated system maintenance such as purging old data and system backup.

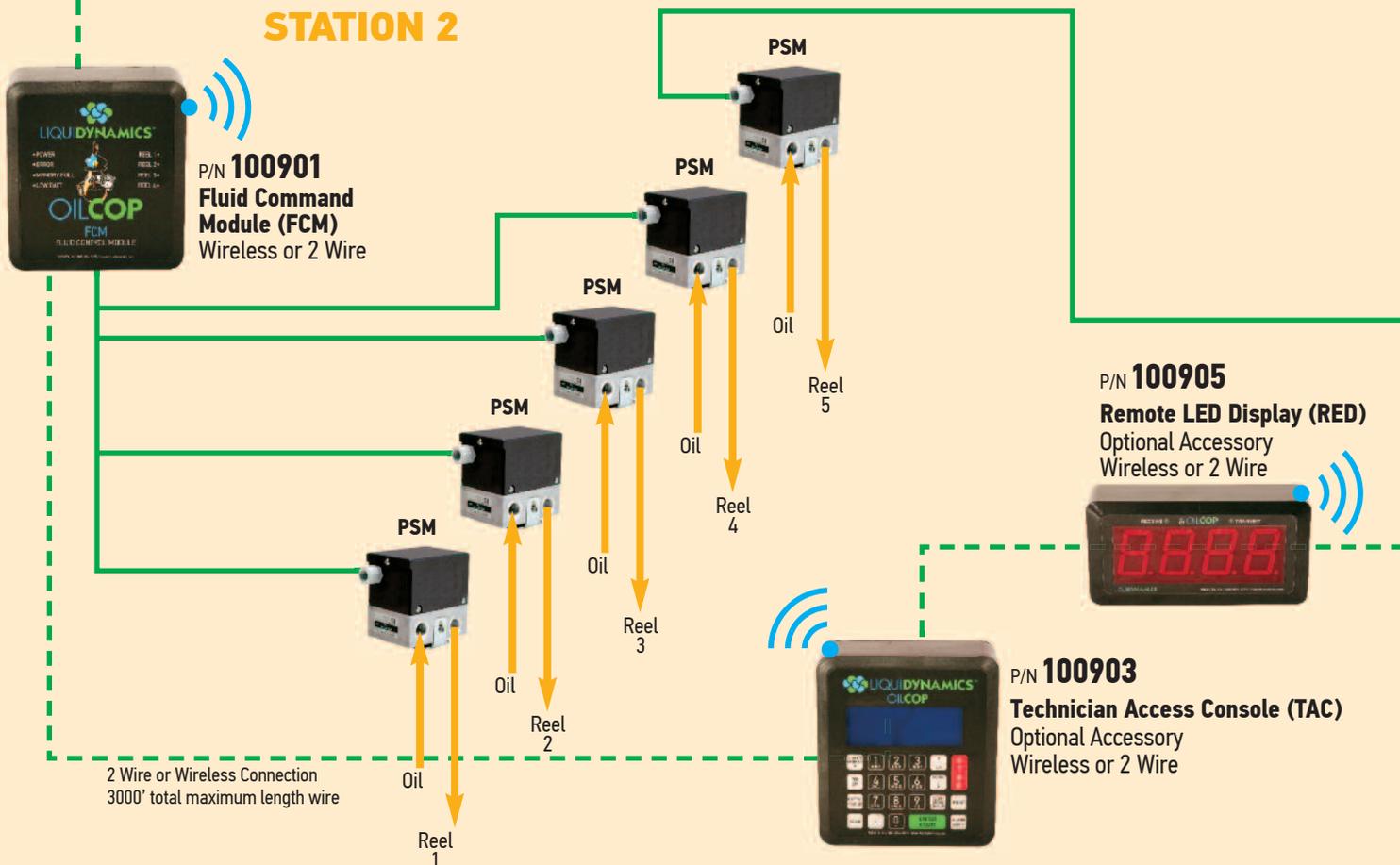


OIL COP FLUID CONTROL SYSTEM CONFIGURATION

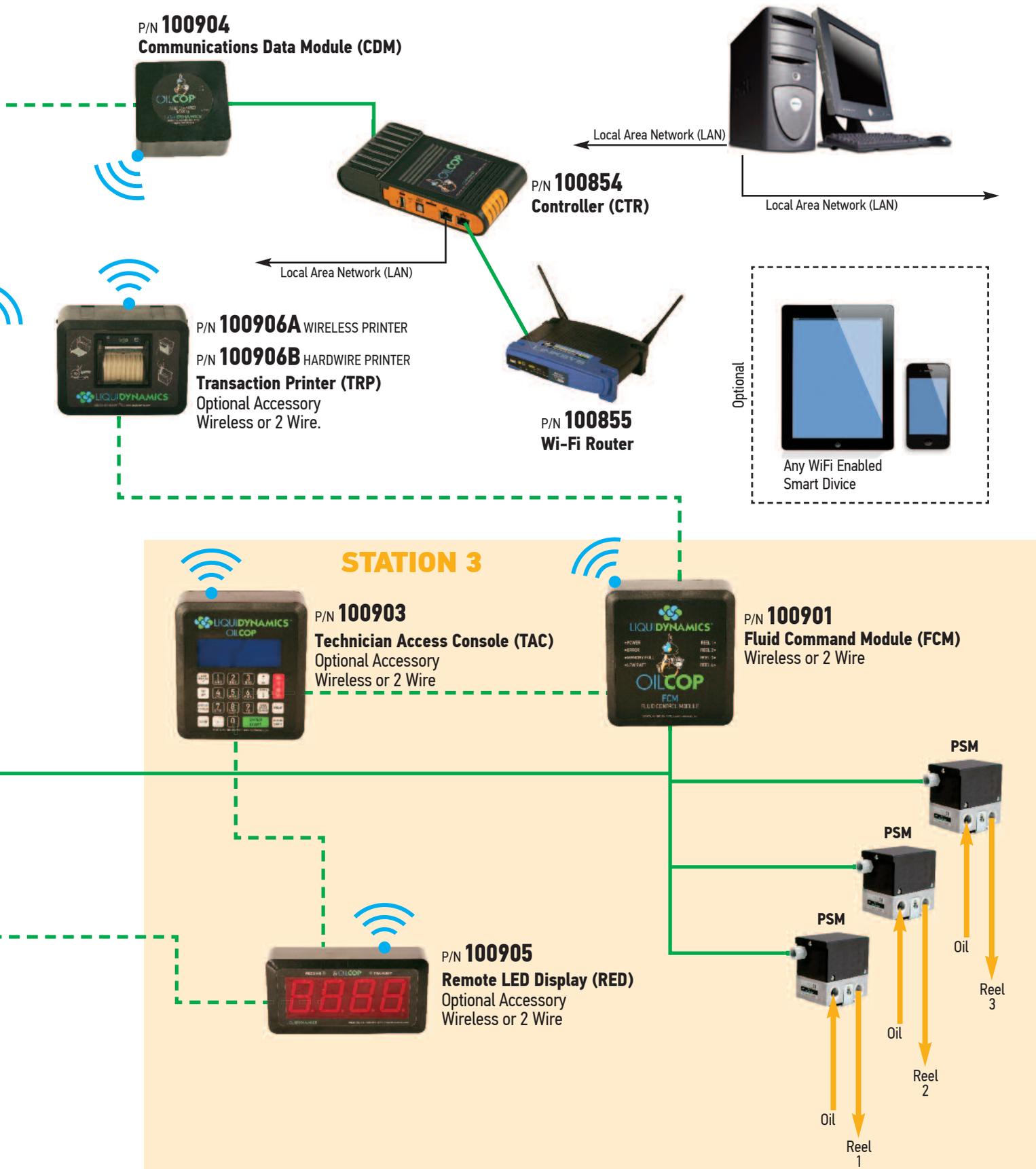
NEW OIL



FLUID MGMT.



OIL COP FLUID CONTROL SYSTEM CONFIGURATION

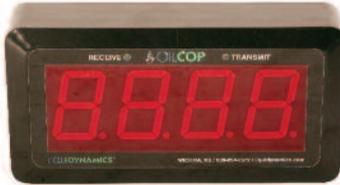


OIL COP FLUID MANAGEMENT SYSTEM COMPONENTS

Remote LED Display (RED)

P/N **100905**

The Remote LED Display (RED) provides excellent visibility from a distance via brightly lit 2¼" tall digits, while still providing a compact, easily installed package, with overall dimensions of 10"W x 5"H x 2½"D. The primary purpose of the Remote LED Display (RED) is to display the on-going batch total amount during a dispense operation. The Remote LED Display (RED) can operate wirelessly or can be hardwired via a simple two conductor cable if preferred.



Pulser/Solenoid Module (PSM)

P/N **100715G** (WITH BYPASS CAPABILITY)

The Pulser/Solenoid Module (PSM) is a unique combination of products that is designed to simplify installation and significantly improve reliability. The PSM provides one simple product in what is typically sold and installed as three separate items i.e. 24 VDC solenoid valve to start and stop fluid flow, a metering pulser that provides flow measurement information and an inlet filter screen to protect the metering pulser and solenoid valve from foreign material damage. In addition, the PSM provides a simple and convenient electrical connection interface for 24 V power and metering pulse data output via a simple 4 conductor cable. A single 1/2" NPTF inlet and outlet connection to the PSM replaces the typical six connections in competitor installations. This provides not only faster installation, but also greatly reduces possibilities of leaks by reducing the number of fluid connections from six connections to two.



Pulser accuracy is +/- 0.5% with a maximum flow of 7.9 GPM and viscosity range of 9 – 3,000 cSt. Maximum operating pressure is 1,000 PSI, inlet filter/strainer is 150 micron.

An additional unique feature of this Pulser/Solenoid Module (PSM) is the built in bypass capability that allows the PSM to be bypassed in cases of emergency. This bypass is normally in the closed position and security sealed in place, but can be quickly opened by cutting the wire seal and opening the valve to allow manual dispensing operation if necessary. The security seal provides tamper evidence indicating that the bypass has been opened.

Pulser/Solenoid Module (PSM)

P/N **100715** (WITHOUT BYPASS CAPABILITY)

This Pulser/Solenoid Module is the same as P/N 100715G but does not include the bypass feature for applications where bypass capability is not desirable.

Solenoid is 24 VDC and Pulser accuracy is +/- 0.5% with a maximum flow of 7.9 GPM and viscosity range of 9 – 3,000 cSt. Maximum operating pressure is 1,000 PSI, inlet filter/strainer is 150 micron.



Transaction Printer (TRP)

P/N **100906A** WIRELESS PRINTER

P/N **100906B** HARDWIRE PRINTER

Oil Cop and Oil Cop Junior transaction details can be easily printed either locally or remotely using the Transaction Printer (TRP). Two versions of this printer are available, one is for use wirelessly for applications where the printer needs to be located remotely and the other is designed to be connected directly to the Oil Cop Technicians Console or the Oil Cop Junior Console.



Both printers print out transaction details upon completion of a transaction and may include;

- Date:** Date of transaction
- Time:** Time of transaction
- W/O:** Work order number
- Name:** Name of technician
- Product:** Product designation, i.e.; 10W/30
- Amount:** Amount dispensed
- Top Off:** Amount of top off, if any

Example of paper tape.



2 Conductor Cable (per foot)

P/N **100710-XX**

This 2 strand, 18 gauge, wire cable is used to connect any of the Oil Cop and Oil Cop Junior Modules if Wireless communication is not desired or practical. Sold by the foot or rolls of 100 meter/328 ft.

4 Conductor Cable (per foot)

P/N **100709-XX**

Hard wire connection between the Oil Cop Fluid Command Module (FCM) or Oil Cop Junior Console (JRC) and the Pulser/Solenoid Module (PSM) is done with this 4 strand, 18 gauge, wire cable. This cable provides 24 VDC power to the solenoids as well as metering information from the pulsers. Sold by the foot or 100 meter/328 ft. rolls.

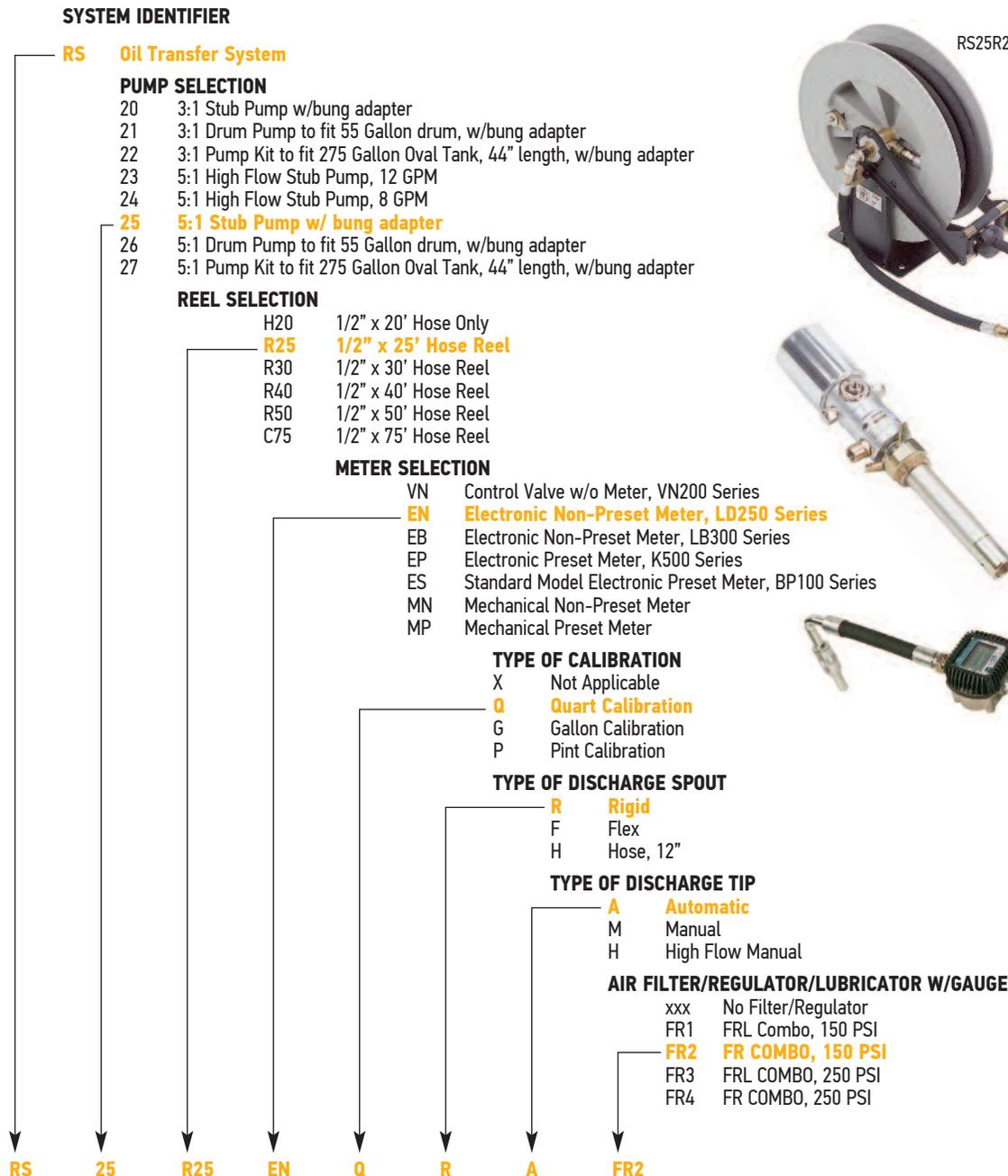
OIL REEL SYSTEM SELECTION GUIDE

The selection guide below allows you to customize the pump/reel/meter system to best fit your application and allows you to take advantage of "system" pricing.

The selection guide steps you through the selection process with the end result being a unique model number detailing your system configuration. Model RS25R25ENQRAFR2 is shown below. It includes a 5:1 stub pump, foot valve, 25 foot hose reel w/ 2 foot jumper hose, electronic meter with quart calibration, rigid spout, auto-tip and a 150 PSI rated filter/regulator with gauge.

Note: Optional items that you may need to complete your system: P/N 540025 Relief Valve Kit, 750 PSI, P/N 540035 2" Double Tap with 3/8" Return Port, P/N 22159 2" Bung Spacer with 3/8" Return Port.

Note: If you will be plumbing any of these systems with hard, rigid pipe, it is highly recommended to install a relief valve kit, model P/N 540025. When using a stub pump, use relief valve kit P/N 540025 in conjunction with 2" double tap P/N 540035, or bung spacer P/N 22159, for convenient return of "relieved" fluid. See page 10.



RS25R25ENQRAFR2 shown

Example: Transfer system w/ 5:1 pump, 25' Hose Reel, non-preset electronic meter w/quart calibration, rigid spout, automatic discharge tip and filter regulator combo w/gauge.

NOTE: For pricing see back section of price booklet.

COMPLETE TANK SYSTEMS



P/N 970023-225 shown

New Oil Bench Tank Kits With 3/4" Double Diaphragm Pump and 4-Way Valve can be used for filling mobile containers and drums and then, with a simple re-positioning of the 4-way valve and connection to an external source, the tank can be quickly refilled. The system includes a lockable fill cap that can be used to fill the tank if desired. A tank level gauge provides tank level monitoring capability, while the 3/4" x 12' suction/discharge hose with included dry break disconnects allows quick and easy connection to external tanks or drums.

P/N **970023-165**
165 Gallon Bench Tank Kit

P/N **970023-225**
225 Gallon Bench Tank Kit

P/N **970023-280**
280 Gallon Bench Tank Kit

1:1 SPIGOT PUMP TANK SYSTEMS

Model	Tank Capacity	Tank Dimensions
P/N 32093-S21	165 Gallon	36" L x 33" D x 33" W
P/N 32093-S22	225 Gallon	48" L x 33" D x 33" W
P/N 32093-S23	280 Gallon	60" L x 33" D x 33" W

Systems Include:

- Tank specified above
- 32099-S1 1:1 Pump
- 901054 Vent/Fill Cap (lockable)
- 901057 Tank Level Gauge
- 540201-G Air Filter/Regulator w/gauge
- 23104 Self Closing Spigot



P/N 32093-S21 shown

CUSTOMIZED TANK SYSTEMS

The "system selection guide" may be used to customize your tank systems, which are completely assembled at the factory and ready for introduction of product and air supply.

All tank systems include the following components to ensure that your system is ready for use:

- Your choice of tank
- Your choice of pump, 1:1, 3:1, 5:1 (3:1 pump standard)
- 2" bung adapter (allows easy adjustment of pump height)
- Suction pipe with foot valve
- Air filter/regulator (not supplied w/electric pump)
- Your choice of meter and control handle (100200-RA standard)
- Your choice of hose reel length (1/2" x 25' standard)
- 1/2" x 2' oil jumper hose
- 3/8" x 6' air jumper hose (not supplied w/electric pump)
- 1/4" air quick coupler (not supplied w/electric pump)
- Tank level gauge
- Vented fill cap (lockable)

Systems are skid mounted (oval tanks) and protected by a heavy carton to allow easy handling and to ensure the system arrives at the customers location in excellent condition.



Model TS20R40ENQRATI shown

Model TS21R25ENQRAB2 shown

CUSTOMIZED TANK SYSTEMS SELECTION GUIDE

SYSTEM IDENTIFIER

TS Tank System

PUMP SELECTION

- 09 3/4" Double Diaphragm
- 11 1/2" Double Diaphragm
- 12 1:1 Pump, 5 GPM – without spigot
- 20 3:1 Pump, 5 GPM**
- 21 5:1 Pump, 5 GPM
- 22 5:1 Pump, 8 GPM
- 23 5:1 Pump, 12 GPM

REEL SELECTION

- H20 1/2" x 20' Hose Only
- R25 1/2" x 25' Hose Reel**
- R30 1/2" x 30' Hose Reel
- R40 1/2" x 40' Hose Reel
- R50 1/2" x 50' Hose Reel
- C75 1/2" x 75' Hose Reel

METER SELECTION

- VN Control Valve w/o Meter, VN200 Series
- EN Electronic Non-Preset Meter, LD250 Series**
- EB Electronic Non-Preset Meter, LB300 Series
- EW Windshield Wash Fluid (For use with 1:1 Pumps only.)
- EP Electronic Preset Meter, K500 Series
- ES Standard Model Electronic Preset Meter, BP100 Series
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter
- WB Hose Bib (For use with 1:1 Pumps only.)

TYPE OF CALIBRATION

- X Not Applicable
- Q Quart Calibration**
- G Gallon Calibration
- P Pint Calibration

TYPE OF DISCHARGE SPOUT

- R Rigid**
- F Flex
- H Hose, 12"
- X No Tip

TYPE OF DISCHARGE TIP

- A Automatic**
- M Manual
- H High Flow Manual

TANK SELECTION

- T1 275 Gallon Oval 60" L x 27" D x 52" H**
- T2 330 Gallon Oval 72" L x 27" D x 52" H
- T3 275 Gallon Oval Vertical 52" L x 27" D x 60" H
- T4 330 Gallon Oval 17" W x 52" L x 76" H
- B1 165 Gallon Bench 36" L x 33" D x 39" H
- B2 225 Gallon Bench 48" L x 33" D x 39" H
- B3 280 Gallon Bench 60" L x 33" D x 39" H
- C3 336 Gallon Tower 36" L x 36" D x 64" H
- R3 300 Gallon Round 37.75" Dia. x 62"
- R4 300 Gallon Round UL Listed 38" Dia. x 60"
- R6 500 Gallon Round UL Listed 46" Dia. x 71.5"

TS **20** **R25** **EN** **Q** **R** **A** **T1**



Example: Tank system w/3:1 pump, 25' reel, electronic meter w/quart cal., rigid spout, auto non drip tip and 275 gallon oval tank. System comes complete with foot valve, 2" bung adapter, air filter/regulator, air coupler set, 1/2" x 2' oil connection hose, 3/8" x 6' air connection hose, tank gauge, vented fill cap.

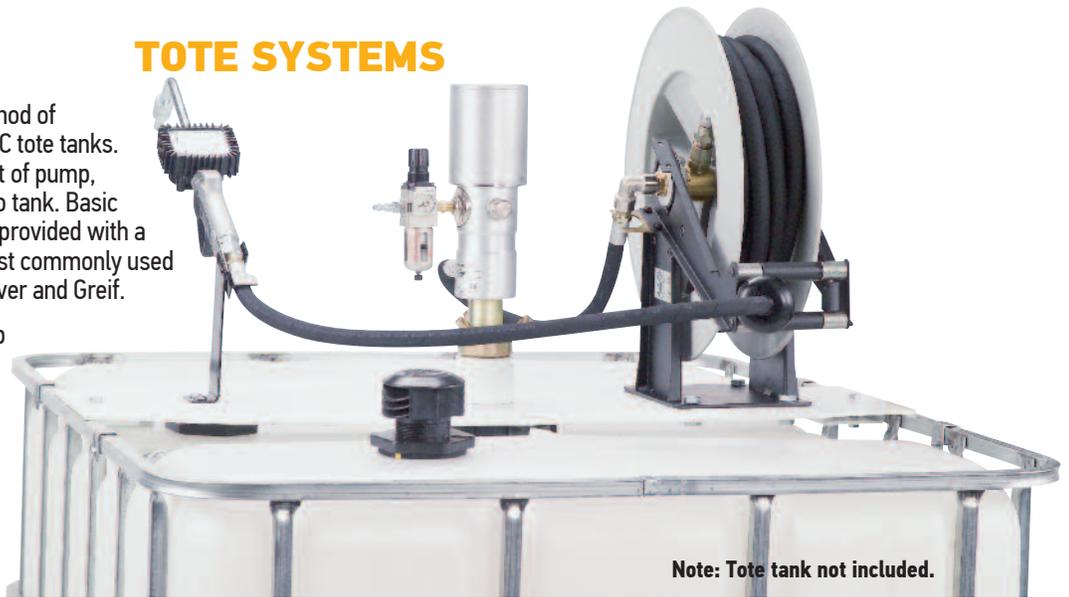
NOTE: For pricing see back section of price booklet.

TOTE SYSTEMS

The Tote System is a convenient method of mounting transfer equipment onto IBC tote tanks. Steel mounting plate supports weight of pump, reel and meter, preventing damage to tank. Basic mounting plate kit is 40" wide and is provided with a versatile hold down bracket to fit most commonly used IBC tote tanks such as Clawson, Hoover and Greif.

Optional bulkhead fitting and vent cap kit allows equipment to be left in place while providing tank venting and refilling access.

By using the convenient selection guide provided, you can easily customize your system to fit your particular application.



P/N **901071**

275 Gallon IBC Tote Tank with galvanized steel tubing frame. UV stabilized, high density polyethylene blow molded tank. May be stacked up to three high. Four way fork lift access. Dimensions are 48"W x 40"D x 46"H. Six inch lid has a 2" NPTF opening and 2" discharge valve at bottom. Shipping weight, 145 lbs.

P/N **901071-330**

330 Gallon IBC Tote Tank with galvanized steel tubing frame. UV stabilized, high density polyethylene blow molded tank. May be stacked up to three high. Four way fork lift access. Dimensions are 48"W x 47"D x 54"H. Six inch lid has a 2" NPTF opening and 2" discharge valve at bottom. Shipping weight, 155 lbs.



Vent Cap Features:

- 2" Male NPT
- Glass reinforced polypropylene
- 304 Stainless Steel Screen, 12 Mesh

P/N **900289-S** Vent w/Screen



P/N **950026**

IBC Tote Mounting Plate Hardware Kit, includes all hardware to attach mounting plate to tote tank and allow mounting of pneumatic pump, hose reel and discharge valve/meter. Fits most standard IBC tote tanks w/40" wide frame.

P/N **950026A**

Tote Mounting Plate for use w/88403-75L (C75) reels Same as above, except 13" wide to accommodate 75' hose reel

NOTE: See page 102 for desiccant breather options.

Bulkhead Fitting & Vent Kit:

P/N **900352**

Includes Bulkhead Fitting, Buna N Gasket & Vent with Screen



Bulkhead Fitting Features:

- 2" Bulkhead Fitting (3" hole size)
- Glass reinforced polypropylene
- Nitrile Gasket (EPDM optional)



P/N **900236**

Bulkhead Fitting (comes standard with Buna N Gasket)

P/N **900348**

EPDM Bulkhead Gasket

P/N **900349**

Buna N Bulkhead Gasket

IBC OIL TANK SYSTEM SELECTION GUIDE

SYSTEM IDENTIFIER

- TOA** Tote System for 275 Gallon Tote*
- TOB Tote System for 330 Gallon Tote*

PUMP SELECTION

- 09 3/4" Double Diaphragm
- 10 1:1 Pump Kit to fit 44" deep Tote Tank, w/Bung Adapter
- 11 1/2" Double Diaphragm
- 22 3:1 Pump Kit to fit 44" deep Tote Tank, w/Bung Adapter
- 27** **5:1 Pump Kit to fit 44" deep Tote Tank, w/Bung Adapter**

REEL SELECTION

- H20 1/2" x 20' Hose Only
- R25** **1/2" x 25' Hose Reel**
- R30 1/2" x 30' Hose Reel
- R40 1/2" x 40' Hose Reel
- R50 1/2" x 50' Hose Reel
- C75 1/2" x 75' Hose Reel

METER SELECTION

- VN Control Valve w/o Meter, VN200 Series
- EN** **Electronic Non-Preset Meter, LD250 Series**
- EB Electronic Non-Preset Meter, LB300 Series
- EP Electronic Preset Meter, K500 Series
- ES Standard Model Electronic Preset Meter, BP100 Series
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter

TYPE OF CALIBRATION

- X Not Applicable
- Q** **Quart Calibration**
- G Gallon Calibration
- P Pint Calibration

TYPE OF DISCHARGE SPOUT

- R** **Rigid**
- F Flex
- H Hose, 12"

TYPE OF DISCHARGE TIP

- A** **Automatic**
- M Manual
- H High Flow Manual

AIR FILTER/REGULATOR/LUBRICATOR W/GAUGE

- XXX No Filter/Regulator
- FR1 FRL Combo, 150 PSI
- FR2** **FR Combo, 150 PSI**
- FR3 FRL Combo, 250 PSI
- FR4 FR Combo, 250 PSI



Model TO27R50ENQRAFR2 shown

TOA **27** **R25** **EN** **Q** **R** **A** **FR2**

Note: All systems above include mounting bracket and hardware to support pump, reel and discharge valve/meter as shown.

Bulkhead fitting, vent and tote tank must be ordered separately.

***Tote tank not included.**

NOTE: For pricing see back section of price booklet.

POLY-TANK GRAVITY FLOW SYSTEMS

These space-saving fluid storage systems are simple, dependable, versatile and strong. All tank sizes can be stacked with each other, in any combination since the "footprint" dimensions of all tanks are the same. These tanks are rotationally molded using Natural virgin high density polyethylene (HDPE) which provides exceptional stiffness, surface clarity, UV stabilization and superior environmental stress crack resistance. These tanks are designed for use with polyethylene tolerant fluids and accessories.

The transparent polyethylene material allows you to easily see fluid levels at all times, thus eliminating the need for a separate level gauge. There is no guessing on volumes since all tanks have molded-in volume indicators, therefore eliminating product run-outs and down time.

Stackable tanks have unique molded in grooves that interlock with tanks below to secure tanks in place when stacked. These tanks are easy to set up and are user friendly. A wide range of accessories are available to allow you to configure your tank system to best fit your specific application.

Complete gravity flow tank packages are also available as shown below to allow quick and easy ordering. Secondary containment vessels in two different sizes are also available if required.

Poly Tanks Only

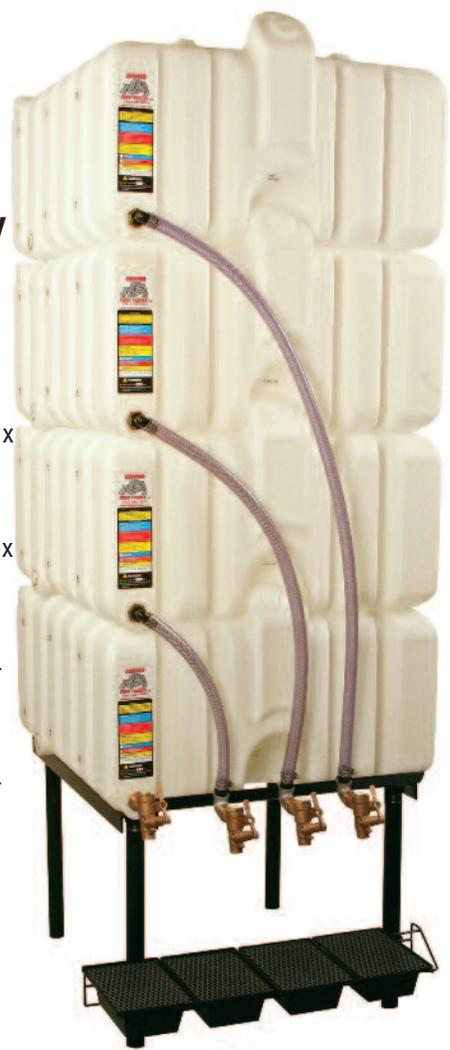
P/N **RTT-1110**
80 Gallon Tank, 36"L
x 36"W x 18"H, 35 lb.

P/N **RTT-1210**
120 Gallon Tank, 36"L x
36"W x 27"H, 50 lb.

P/N **RTT-1310**
180 Gallon Tank, 36"L x
36"W x 39"H, 95 lb.

P/N **RTT-1410**
240 Gallon Tank, 36"L
x 36"W x 49"H, 150 lb.

P/N **RTT-1510**
325 Gallon Tank, 36"L
x 36"W x 66"H, 170 lb.



COMPLETE GRAVITY FLOW TANK KITS

Complete Gravity Flow Tank Kits

These 2-tank and 3-tank gravity flow tank kits have everything you need for a complete installation, Includes: Tanks, 24" stand, Drip Tray, Spring Valves, Fittings, Tubing, Hose Clamps and Thread Sealant.

P/N RTT-6333 shown

P/N **RTT-6330**
80/80 Complete Gravity Flow Kit

P/N **RTT-6333**
80/80/80 Complete Gravity Flow Kit

P/N **RTT-6220**
120/120 Complete Gravity Flow Kit

P/N **RTT-6320**
80/120 Complete Gravity Flow Kit

P/N **RTT-6880**
180/180 Complete Gravity Flow Kit

P/N **RTT-6280**
120/180 Complete Gravity Flow Kit



P/N RTT-6280
shown

ACCESSORIES FOR POLY TANKS

Valves

P/N **RTT-4001**
Spring Release Valve

P/N **RTT-4036**
Brass Ball Valve

P/N **RTT-4002**
Polyethylene Ball valve

Tank Stands

Heavy duty steel construction with powder coat finish for corrosion resistance. One stand fits all size tanks.

P/N **RTT-2000**
Tank Stand Kit, 4" Legs

P/N **RTT-2100**
Tank Stand Kit, 24" Legs

P/N **RTT-2010**
Tank Stand Kit, 10" Legs

P/N **RTT-2200**
Tank Stand Kit, 36" Legs

P/N **RTT-2050**
Tank Stand Kit, 14" Legs

P/N **RTT-4000**
Elbow Kit w/Nut for Stand

Drip Trays

P/N **RTT-3000**
Drip Tray Holder (Frame Only)

P/N **RTT-3200**
Drip Tray Kit (Holder, 4 Pans and Screens)

P/N **RTT-3100**
Drip Tray Inserts, w/Screen

Gravity Feed Accessory Kit

Includes 1" Braided Tubing, Hose Connectors, Hose Clamps, Elbow Kit and Thread Sealant. **(Order valves separately.)**

P/N **RTT-4092**
2 Tank Accessory Kit

P/N **RTT-4094**
4 Tank Accessory Kit

P/N **RTT-4093**
3 Tank Accessory Kit

Secondary Containment

Containment vessels are rotationally molded HPDE with vertical rib reinforcement for superior strength and impact resistance.

P/N **RTT-4041**
360 Gallon Containment Vessel (42"W x 42"L x 42"D), 100 lb. Contains tank or pump system where largest tank is 320 gallons.



Tanks, stand and valves not included.

Gravity Feed Accessory Kit (P/N RTT-4092 shown)

Valves (P/N RTT-4001 shown)

Tank Stands (P/N RTT-2100 shown)

Drip Trays (P/N RTT-3200 shown)

Gravity Feed Accessories

P/N **RTT-4003**
Polyethylene Elbow w/barbed End

P/N **RTT-4009**
Braided Poly Tubing, 1" ID (1 ft. Increments)

P/N **RTT-4004**
Polyethylene Union w/Barbed End

P/N **RTT-4033**
Hose Clamp (ea.)

P/N **RTT-4031**
Thread Sealant, 2 Oz. Tube

P/N **RTT-4040**
203 Gallon Containment Vessel (52"W x 58"L x 20"D), 38 lb. Contains tank or pump system where largest tank is 180 gallons. Features molded-in drip tray area with full screen.

POLY TANK EQUIPMENT PACKAGES

Wall Mount Pump/Reel Kits

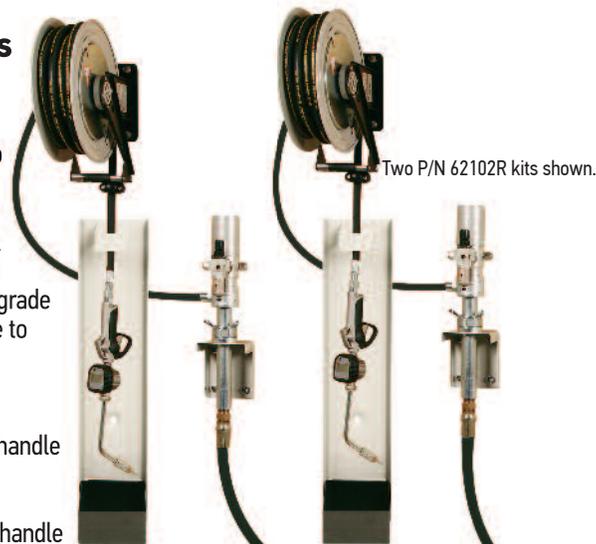
P/N **62102R**

Convenient pump and hose reel kit provides everything you need to pump oil from a Poly tank and deliver it to a receiving vehicle. Suction side of pump connects to bottom of Poly tank (ORDER POLY TANK SEPERATELY) and then pumps the oil via a professional grade hose reel and metering control handle to your vehicle. Kit includes;

- 3:1 air operated pump
- 1/2" x 25' Hose Reel
- Electronic digital meter and control handle
- Air filter/regulator
- Wall mounting bracket for pump
- Drip/retaining tray for meter/control handle

P/N **62107R**

Same as P/N 62102R except this kit includes a 5:1 pump and 50' hose reel.



Two P/N 62102R kits shown.



Tanks and containment vessel not included.

P/N RTT-4041 360 gallon containment vessel shown.



P/N 62101-180 shown

Tank Mount Pump/Reel Kits

This Poly Tank package provides a complete package and includes your choice of tank size from the selection below. The 3:1 pump is mounted directly onto the tank which then pumps the fluid to the hose reel and metering control handle. Kit includes;

- Your choice of 80, 120, 180, 240 or 325 gallon tank
- Heavy duty tank stand w/24" legs
- 3:1 air operated pump
- 1/2" x 25' Hose Reel
- Electronic digital meter and control handle
- Air filter/regulator
- Wall mounting bracket for pump
- Drip/retaining tray for meter/control handle
- Order part number shown below according to the tank size required

P/N **62101R-80**
80 Gallon Poly Tank Kit

P/N **62101R-240**
240 Gallon Poly Tank Kit

P/N **62101R-120**
120 Gallon Poly Tank Kit

P/N **62101R-325**
325 Gallon Poly Tank Kit

P/N **62101R-180**
180 Gallon Poly Tank Kit

POLY-TANK SYSTEM SELECTION GUIDE

Note: These systems do not include tank, stand or containment vessel.

SYSTEM IDENTIFIER

- PTS** Poly-Tank Tank Mount Equipment Package
- PWS** Poly-Tank Wall Mount Equipment Package
- 80G** 80 Gallon Poly Tank Pump System
- 120G** **120 Gallon Poly Tank Pump System**
- 180G** 180 Gallon Poly Tank Pump System
- 240G** 240 Gallon Poly Tank Pump System
- 325G** 325 Gallon Poly Tank Pump System

PUMP SELECTION

- 31** 1:1 Pump w/Bung Adapter
- 33** **3:1 Pump w/Bung Adapter**
- 35** 5:1 Pump w/Bung Adapter

HOSE/REEL SELECTION

- H12** 1/2" x 12' Oil Hose
- H15** 1/2" x 15' Oil Hose
- R25** **1/2" x 25' Oil Hose Reel**
- R30** 1/2" x 30' Oil Hose Reel
- R40** 1/2" x 40' Oil Hose Reel
- R50** 1/2" x 50' Oil Hose Reel
- C75** 1/2" x 75' Oil Hose Reel

METER SELECTION

- VN** Control Valve w/o Meter
- EN** **Electronic Non-Preset Meter, LD250**
- ES** Standard Electronic Preset Meter, BP100S

TYPE OF DISCHARGE SPOUT

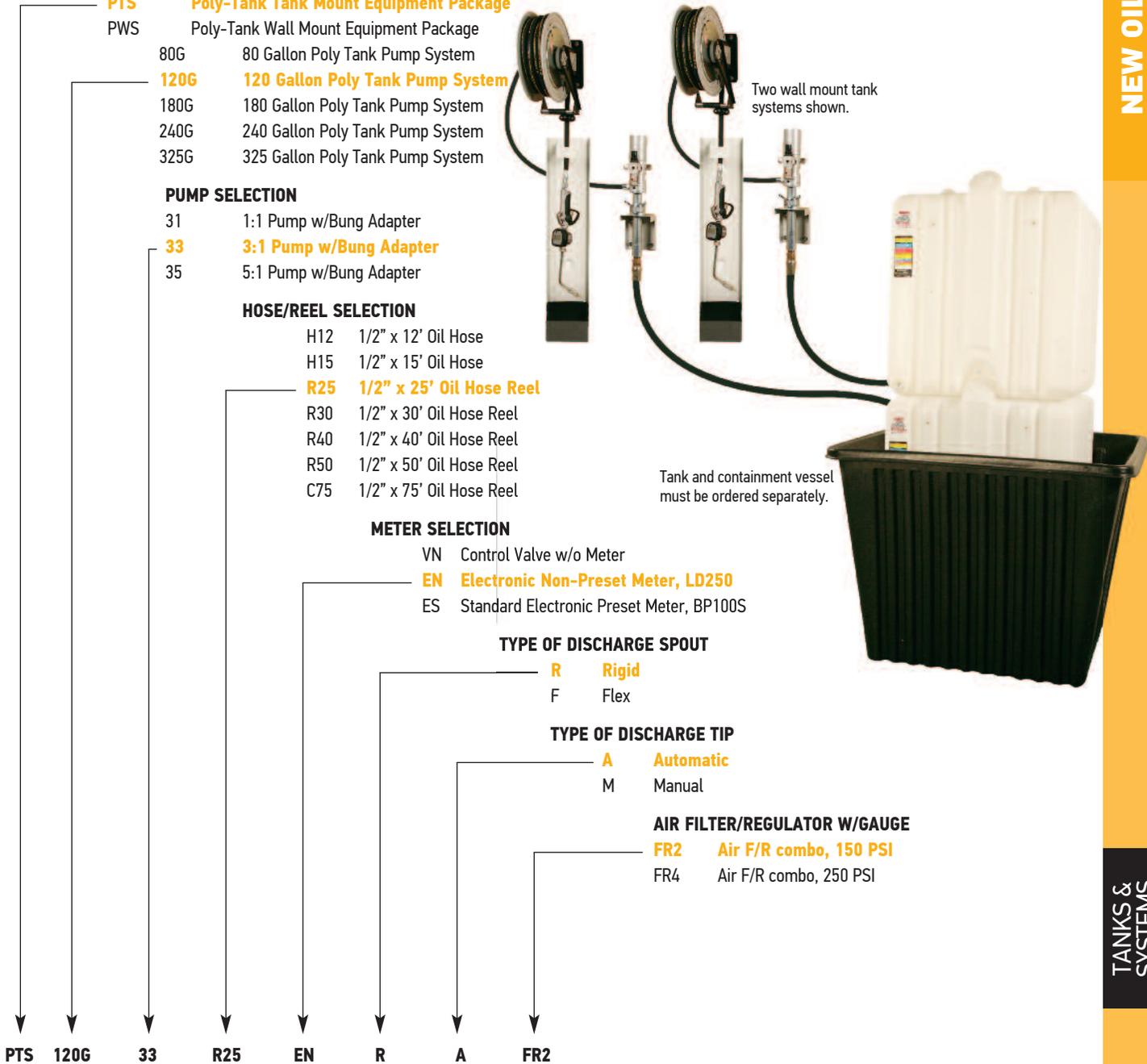
- R** **Rigid**
- F** Flex

TYPE OF DISCHARGE TIP

- A** **Automatic**
- M** Manual

AIR FILTER/REGULATOR W/GAUGE

- FR2** **Air F/R combo, 150 PSI**
- FR4** Air F/R combo, 250 PSI



Example: Poly-Tank System, PTS120G33R25ENRAFR2 as shown above is a tank mount equipment package including a 3:1 pump sized to fit a 120 gallon poly tank, 2" bung adapter, air filter/regulator, 25' hose reel, 1/2" x 6' connection hose, electronic digital meter with rigid spout & automatic tip and wall mounted drip tray. **NOTE: POLY TANK, SUPPORT STAND AND CONTAINMENT VESSEL MUST BE ORDERED SEPARATELY**

NOTE: For pricing see back section of price booklet.

STORAGE TANKS

Tower Cube

Ideal for locations where floor space is limited and a large capacity is desired. Tank is constructed from 10 gauge carbon steel to prevent "bulging", supplied with a reel mounting bracket, three 2" bung openings and a 1" drain. Finish is gray laquer.

P/N 901075
336 Gallon capacity; 36"L x 36"W x 60"H (65" overall height).
Shipping weight 465 lbs.



P/N 901075 shown

P/N 901060V
275 Gallon Vertical Oval Tank has five 2" bung openings, one 3" emergency vent opening and one 1" drain plug.
27" W x 45" L x 64" H, shipping weight 328 lbs. U.L. Listed.

P/N 901061V
330 Gallon Vertical Oval Tank has five 2" bung openings, one 3" emergency vent opening and one 1" drain plug.
27" W x 52" L x 76" H, shipping weight 350 lbs. U.L. Listed.



P/N 901060 shown

Oval Tanks:

These tanks are UL 142 listed, constructed of 12 gauge carbon steel with reinforced "strap" legs. Tanks have three 2" bung openings, one 3" emergency vent and a 1" drain. Powder coat finish.

P/N 901060
275 Gallon Oval; 60"L x 27"W x 50"H, shipping weight 328 lbs.

P/N 901061
330 Gallon Oval, 72"L x 27"W x 50"H, shipping weight 369 lbs.



Round Storage Tanks:

Constructed from 12 gauge carbon steel with reel mounting plate, four 2" bung openings and one 3" emergency vent opening, lifting lug and a 1" drain. Legs are 2" x 2" x 1/8" angle iron. Finish is a light gray powder coat for improved durability.

P/N 901068-UL
500 Gallon Round; 45 1/2" Dia. x 74"L, shipping weight 455 lbs. UL Listed.

P/N 901076-UL
300 Gallon Round; 37.75" Dia. x 62" L, shipping weight 250 lb.

P/N 901076-CH
300 Gallon Round; 37.75" Dia. x 62" L, shipping weight 250 lb.



P/N 901076-CH shown

Bench Tanks:

Bench tanks are constructed from 12 gauge carbon steel with 3" channel bottom and 3" backsplash on three sides. Tank has a 1" drain, three 2" bung openings and comes standard with a reel mounting plate, powder coated finish.

P/N 901062
165 Gallon Bench; 36"L x 33"W x 33"H (39" high overall), shipping weight 255 lbs.

P/N 901063
225 Gallon Bench; 48"L x 33"W x 33"H (39" high overall), shipping weight 255 lbs.

P/N 901064
280 Gallon Bench; 60"L x 33"W x 33"H (39" high overall), shipping weight 285 lbs.

P/N 950053 P/N 950053-A
Wheel and caster kits for bench tanks.



P/N 901064 shown

Note: Contact Liquidynamics for availability of other tanks such as double wall or special sizes.

STORAGE TANK ACCESSORIES

Level Gauges:

Simple, direct mechanical action ensures reliability and high visibility. These gauges are available for tanks up to 12 ft. deep and can be used when mounting close to a tank wall.

Contact Liquidynamics for other sizes.

P/N **901053**

Tank Gauge for 275 Gallon Oval Tank

P/N **901057**

Tank Gauge for 33" Deep Bench Tanks

P/N **901058**

Tank Gauge for 45½" Deep 500 Gallon Round Tanks

P/N **901056**

Tank Gauge for 60" Deep Tower Tank and 275 Gallon Oval Vertical

P/N **901058-38**

Tank Gauge for 38" Deep 300 Gallon Round Tank

P/N **901051**

55 Gallon Drum Gauge, fits 3/4" opening



Fill Cap:

Loose-seal vented style cap with hinged cover. Fits 2" tank openings and may be locked with a padlock for security. Construction is cast iron with a black lacquer finish.

P/N **901054**

2" NPTM Fill Cap



P/N **901055**

The Pre-Vent Fill Cap is designed for use on small above ground gasoline, diesel and oil storage tanks. The primary purpose of this cap is to pressurize the storage tank and reduce evaporation loss and condensation. The pressure cap valve opens at 2½ PSI and the vacuum release opens at 1½ ounces. Threads are 2" NPTM.



P/N **900256**

1/4" Quick Connect Air Coupler set

P/N **900283**

3/8" Quick Connect Air Coupler set

P/N **900257**

1/2" Quick Connect Air Coupler set



Emergency Vent:

Emergency Vents (pressure relief only) are used on above ground tanks as a code requirement and helps prevent tanks from becoming over-pressurized and rupturing if exposed to fire, UL listed.

P/N **901946**

3" Emergency Vent, 8 oz./sq. in. opening pressure, with 59,900 CFH @ 2.5 PSI Venting Capacity, UL Listed.

P/N **901948**

4" Emergency Vent, 8 oz./sq. in. opening pressure, with 119,750 CFH @ 2.5 PSI venting capacity. UL Listed.



Thread Sealant

Designed for hydraulic and pneumatic systems up to 2" diameter. Sealant has excellent solvent resistance and a temperature range of -65° F to +300° F. Most importantly, it has a pressure rating of 10,000 PSI which allows it to be used on oil and grease systems. May also be disassembled with hand tools.

P/N **904001**

50 ml bottle, enough for hundreds of fittings.

P/N **904003**

250 ml bottle.

P/N **904002**

0.5 ml tube, ideal for small jobs.



Poly Containment Vessel

P/N **901069-P330**

Rotationally molded polypropylene secondary containment vessel holds 330 gallons. Designed for use with 275 gallon oval tanks, top dimensions are 46½" W x 86" L x 28½" H (foot print is 30½" W x 70½" L) Shipping weight 90 lb.



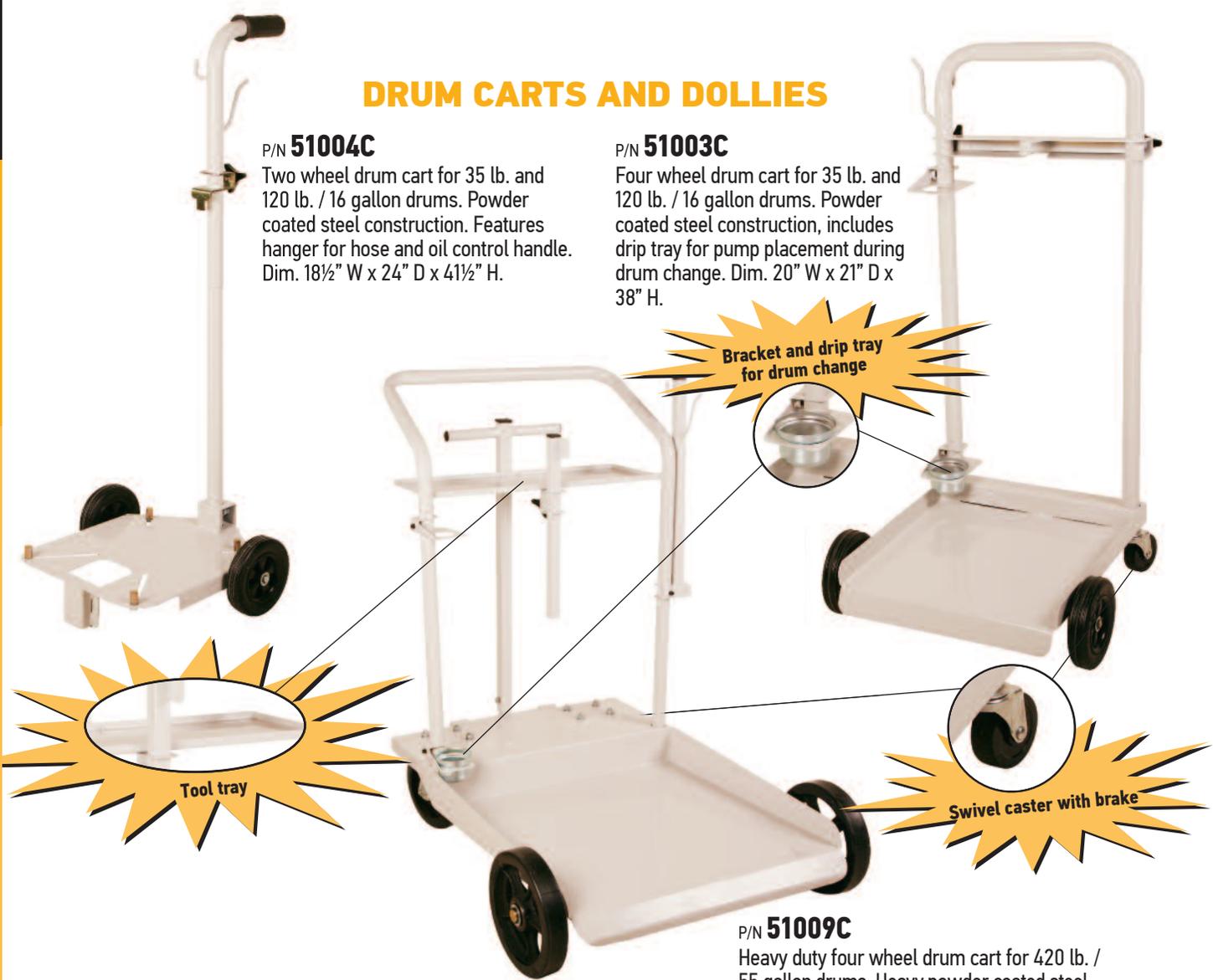
DRUM CARTS AND DOLLIES

P/N 51004C

Two wheel drum cart for 35 lb. and 120 lb. / 16 gallon drums. Powder coated steel construction. Features hanger for hose and oil control handle. Dim. 18½" W x 24" D x 41½" H.

P/N 51003C

Four wheel drum cart for 35 lb. and 120 lb. / 16 gallon drums. Powder coated steel construction, includes drip tray for pump placement during drum change. Dim. 20" W x 21" D x 38" H.



P/N 51009C

Heavy duty four wheel drum cart for 420 lb. / 55 gallon drums. Heavy powder coated steel construction with bracket and drip tray for drum change. Now includes tow bar for improved handling capability. Dim. 31" W x 36" D x 36" H. 2,600 lb. load rating.

Heavy Duty Drum Covers

Recommended for use with air operated pumps as well as hand pumps. Complete with 2" bung.

P/N 901002 5 Gallon Cover

P/N 901006 16 Gallon Cover

P/N 901005 55 Gallon Cover



These drum dollies utilize heavy duty steel wheels on ball bearings. Casters are bolted to the powder coated 12 gauge steel frame, allowing easy replacement.

P/N 950012 30 gallon Drum Dolly

P/N 950008 55 gallon / 420 lb. Drum Dolly

P/N 950007 5 gallon / 35 lb. Drum Dolly

P/N 950006 16 gallon / 120 lb. Drum Dolly

Drum dollies have powder coated finish w/outrigger casters for stability and durability. Urethane ball bearing casters provide quiet, trouble free operation and long life. Adjustable band to fit variations in drum diameter.



DRUM HANDLING EQUIPMENT AND COVERS



55 Gallon Drum Handler

Height 38½" x 33" overall width and 27" opening width. Shipping weight is 48 lb., unit is UPS shippable.

P/N **950060**

Heavy Duty Drum Cradle

Heavy duty one piece construction provides an economical drum stand for draining and storing 30 and 55 gallon drums. Complete with zinc plated handle for additional leverage.

P/N **950009** Drum Cradle, 1,000 lb. capacity



Hand Truck

Dual purpose design allows moving conventional boxed items as well as 16, 30 and 55 gallon drums. Unique chime hook design can be rotated out of the way when not being used. 600 lb. capacity, 10" solid rubber wheels, 50" overall height.

P/N **950066**



Drum Handling Hand Truck

P/N **950068**

Engineered to efficiently and safely move a variety of drum types and sizes. The unique chime hook assembly will handle both steel or fiber drums from 25" to 48" in height. The drum cradle provides perfect balance while loading and moving. Small rollers placed behind the "toes" allow easy loading and unloading from pallets. This drum handler is equipped with 10" x 2½" mold-on rubber wheels with roller bearings and grease fittings for long life. 1,000 pound capacity. Ships via common carrier, 75 lb.

Drum Heaters

Heavy duty silicone rubber band heaters feature a patented serpentine wound and grounded heating element laminated between two layers of 20 mil fiberglass reinforced silicone rubber. These 120 VAC heaters include a 6 foot power cord and plug. **Not for use with lined steel drums or plastic drums.**

P/N **950071-05**

Fits 5 gallon/35 lb pails, 120 VAC, 550 watt, 4.6 amp heater

P/N **950071-16**

Fits 16 gallon/120 lb drums, 120 VAC, 700 watt, 6 amp heater

P/N **950071-30**

Fits 30 gallon drums, 120 VAC, 1000 watt, 8.4 amp heater

P/N **950071-55**

Fits 55 gallon/420 lb drums, 120 VAC, 1200 watt, 10 amp heater



Drum Quilt

Protects the contents of 55 gallon/420 lb drums from rapid temperature change. Uses patented multilayer insulating technology where each layer is designed to act as a barrier to any of the heat transfer mechanisms, such as conduction, convection, moisture and radiation. Ruggedly built and easy to install. **Caution:** These quilts are not designed for use with heaters of any kind.

P/N **950073**

55 Gallon/420 lb Drum Quilt



MOBILE OIL SYSTEMS

P/N **20073-S16**

Basic 3:1 Gear Oil Pump System, Includes:

- P/N 20073T, 3:1 Oil Pump with foot valve and inlet screen
- P/N 901006, 16 gallon drum cover with 2" bung
- P/N 22157, 2" bung adapter
- 540201-G, 1/4" Air Filter/Regulator w/Gauge

P/N **21073-S16**

Same as 20073-S16 except with 5:1 Pump

P/N **20073-S17**

Complete 3:1 Gear Oil Pump System with Control Handle, Includes:

- P/N 20073T, 3:1 Oil Pump with foot valve and inlet screen
- P/N 901006, 16 gallon drum cover with 2" bung
- P/N 22157, 2" bung adapter
- P/N 81200-10, 1/2" x 10' oil hose
- P/N 950006, 4 wheel band dolly
- P/N 100113-RA, Oil Control Handle with rigid spout and auto tip
- P/N 540201-G, 1/4" Air Filter/Regulator w/Gauge

P/N **21073-S17**

Same as 20073-S17 except with 5:1 Pump



P/N 20073-S18 shown

P/N **20073-S18**

Complete 3:1 Gear Oil Pump System with Electronic Meter, Includes:

- P/N 20073T, 3:1 Oil Pump with foot valve and inlet screen
- P/N 901006, 16 gallon drum cover with 2" bung
- P/N 22157, 2" bung adapter
- P/N 81200-10, 1/2" x 10' oil hose
- P/N 950006, 4 wheel band dolly
- P/N 100200-RA, Electronic meter with rigid spout and auto tip
- P/N 540201-G, 1/4" Air Filter/Regulator w/Gauge

P/N **21073-S18**

Same as 20073-S18 except with 5:1 Pump



P/N 20073-S41-V1 shown

Mobile Cart System for use with 16 Gallon / 120 lb. Drums

P/N **20073-S41**

Includes:

- P/N 20073T, 3:1 pump
- P/N 22157, bung adapter
- P/N 51003C, cart
- P/N 81200-12, 1/2" x 12' oil hose
- P/N 901006, cover
- P/N 100200-RA, electronic meter
- P/N 540201-G, 1/4" air filter/regulator w/gauge

P/N **20073-S41-V1**

Same as above but w/o cover

P/N **20073-S42**

Includes:

- P/N 20073T, 3:1 pump
- P/N 22157, bung adapter
- P/N 51003C, cart
- P/N 81200-12, 1/2" x 12' oil hose
- P/N 901006, cover
- P/N 100113-RA, oil control handle
- P/N 540201-G, 1/4" air filter/regulator w/gauge

P/N **20073-S42-V1**

Same as above but w/o cover

MOBILE CART SYSTEMS

Mobile Heavy Duty Cart System for use with 55 gallon Drums

P/N **20094-S31**

Includes:

- P/N 20094T, 3:1 Pump
- P/N 22157, Bung Adapter
- P/N 81200-12, 1/2" x 12' Oil Hose
- P/N 100200-RA, Electronic Meter
- P/N 51009C, Heavy Duty Cart
- P/N 540201-G, 1/4" Air Filter/Regulator

P/N **21094-S31**

Same as above except with 5:1 pump.



P/N 20094-S31 shown

Mobile Heavy Duty Cart System for use with 55 gallon Drums w/ 25' Hose Reel

P/N **20094-S32**

Includes:

- P/N 20094T, 3:1 Pump
- P/N 22157, Bung Adapter
- P/N 43003-25L, 1/2" x 25' Hose Reel
- P/N 100200-RA, Electronic Meter
- P/N 51009C, Heavy Duty Cart
- P/N 540201-G, 1/4" Air Filter/Regulator

P/N **20094-S32**

Same as above except with 5:1 pump.



P/N 20094-S32 shown



P/N 51009C-S2 shown

Electric Oil Transfer Cart for 55 gallon Drums w/ 25' Hose Reel, System Includes:

P/N **51009C-S1**

- P/N 51009C, Heavy Duty 55 Gallon Drum Cart
- P/N 33221, 3 GPM, 115 VAC Electric Pump, 170 PSI max.
- P/N 950065, 1" x 6' Suction Hose Kit w/stinger
- P/N 43003-25L, 1/2" x 25' Hose Reel
- P/N 100200-RA, Electronic Meter w/rigid spout & auto tip

P/N **51009C-S2**

Same as 51009C-S1 except uses 7 GPM electric transfer pump and high flow manual tip on meter to maximize flow rate

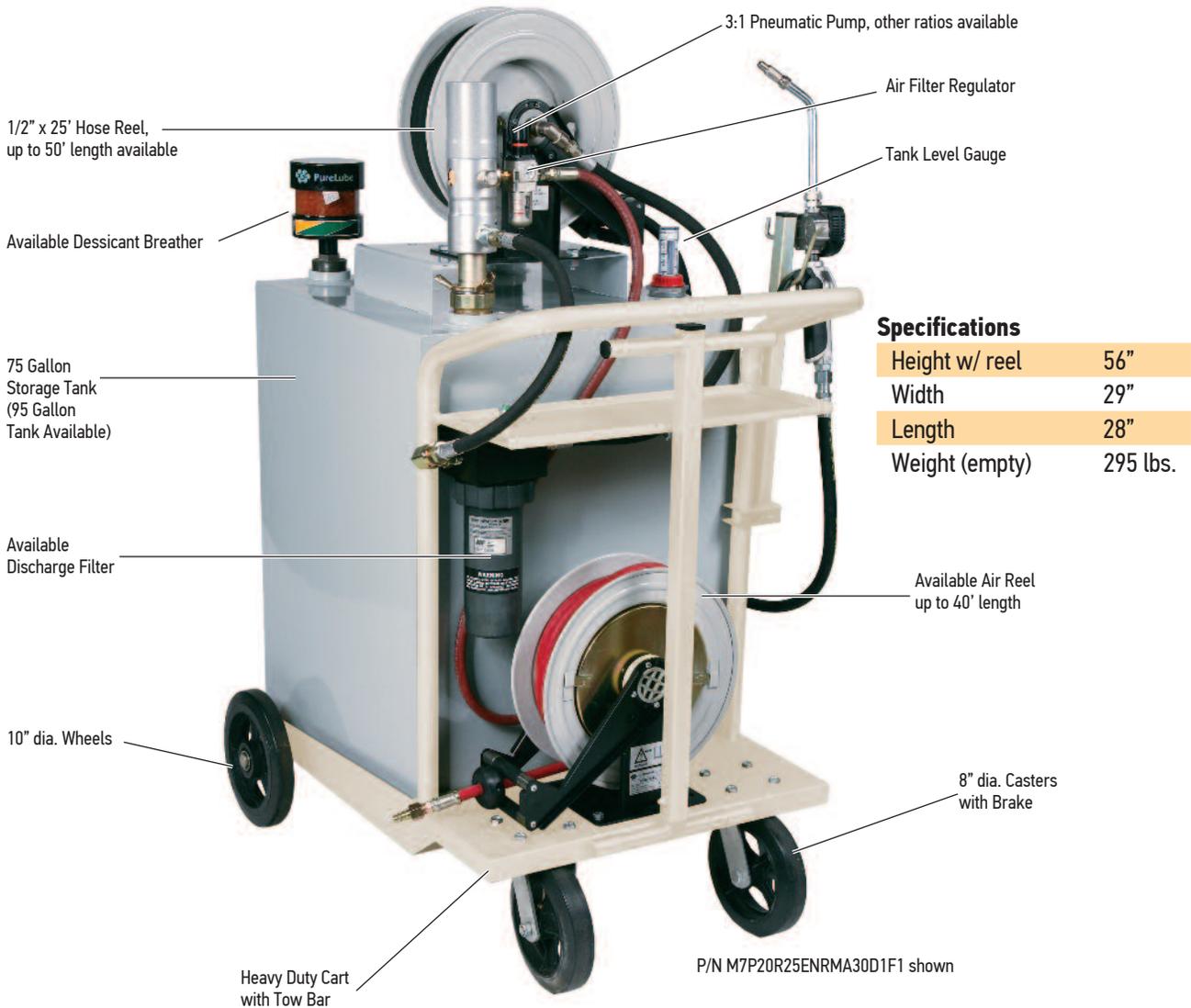
MOBILE CART SYSTEM

The Liquidynamics Mobile Cart System with 75 gallon storage tank provides a clean, safe and efficient way to dispense fluids. The 20 additional gallons of storage capacity allows the user to add the entire contents of a 55 gallon drum before running out of product. This eliminates the potential of having partially empty 55 gallon drums accumulate and does away with the difficulty, mess and time consuming chore of changing drums – you simply pump the fluid from the 55 gallon drum into the Mobile Cart!

The standard system includes a 3:1 pneumatic pump, 1/2" x 25' hose reel, 1/2" x 6' jumper hose, electronic meter, control handle with rigid spout, automatic tip, air filter/regulator, 75 gallon

storage tank and heavy duty cart. The heavy duty cart features large 10" dia. wheels, 8" dia. casters (with brake) and tow bar for easy maneuverability.

You can easily customize this system to best fit your application by choosing components from the provided selection chart. In keeping with the current emphasis on fluid cleanliness, Liquidynamics offers dessicant breathers to ensure air drawn into the tank is free of particulate and moisture contamination. As a final assurance that only clean fluid is being dispensed from your mobile cart, a high pressure discharge filter is available in several micron ratings.



Specifications

Height w/ reel	56"
Width	29"
Length	28"
Weight (empty)	295 lbs.

MOBILE CART SYSTEM SELECTION GUIDE

SYSTEM IDENTIFIER

- MX** 55 Gallon Drum Cart System
- M7** Cart System with 75 Gallon Tank
- M9** Cart System with 95 Gallon Tank

PUMP SELECTION

- P12 1:1 Pump w/Bung Adapter
- P20** 3:1 Pump w/Bung Adapter
- P21 5:1 Pump w/Bung Adapter
- P22 5:1, 8 GPM Pump w/Bung Adapter
- P51 3.0 GPM Electric Pump, Manual on/off, 115 VAC, 170 PSI Max
- P52 115 VAC, 4 GPM, 230 PSI Max (P/N 33222)

FLUID REEL/HOSE SELECTION

- H12 1/2" x 12' Oil Hose
- R25** 1/2" x 25' Oil Hose Reel
- R40 1/2" x 40' Oil Hose Reel
- R50 1/2" x 50' Oil Hose Reel

METER SELECTION

- VN Control Valve w/o Meter
- EN** Electronic Non-Preset Meter, LD250
- EP Electronic Preset Meter, K500
- ES Electronic Preset Meter, BP100S
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter

TYPE OF DISCHARGE SPOUT

- R** Rigid
- F Flex
- H Hose, 12"

TYPE OF DISCHARGE TIP

- A Automatic
- M** Manual
- H High Flow Manual

AIR REEL

- XXX Not Required
- A30 30' Air Reel
- A40 40' Air Reel

DESSICANT BREATHERS (Includes Pre-Vent Fill Cap)

- XX Not Required
- D1 PureLube Dessicant Breather, 3"x3"
- D2 PureLube Dessicant Breather, 5"x5"

DISCHARGE FILTER

- XX Not Required
- F1 Discharge Filter, 10 micron
- F3 Discharge Filter, 3 micron
- F5 Discharge Filter, 5 micron

MX **P20** **R25** **EN** **R** **M** **XXX** **XX** **XX**



P/N M7P20R25ENRM XXX XX XX shown

Example: Mobile Cart System MX P20 R25 ENRM XXX XX XX as shown above is a basic mobile cart system with heavy duty cart for 55 gallon drums, 3:1 pneumatic pump to fit a 55 gallon drum, 1/2" x 25' hose reel 1/2" x 6' connection hose, air filter/regulator and electronic digital meter with rigid spout and manual tip.

Your Mobile Cart can easily be customized to fit your specific application by selecting options shown above.

NOTE: For pricing see back section of price booklet.

HAND OPERATED MOBILE GEAR OIL PUMP KITS

NEW OIL



P/N **30200-S6**
Mobile Hand Pump System for use with 16 gallon drums.

- Includes:
- 30200 Hand Pump
 - 51003C 4 Wheel Cart
 - 901006 Cover

P/N **30200-S7**
Same as above but includes P/N 100200 In-line Meter

P/N **30200-S8**
Mobile Hand Pump System for use with 55 gallon drums.

- Includes:
- 30200 Hand Pump
 - 51009C 4 Wheel Cart

P/N **30200-S9**
Same as above but includes P/N 100200 In-line Meter



Light Duty Gear Oil Hand Pump Systems for 16 gallon drums.

P/N **10007C**
Pump & Cover

P/N **10007-S2**
Pump, Cover & Dolly

P/N **10007-S1**
Pump, Cover, Dolly, Meter

P/N 10007-S1 shown

(Drum not included)

P/N 30200-S10 (shown)

Heavy Duty Gear Oil Hand Pump Systems for 55 gallon drums.

P/N **30200-S10**
Pump & Dolly

P/N **30200-S11**
Pump, Dolly and Meter.

(Drum not included)



1P/N 30200-S2 (shown)

Heavy Duty Gear Oil Hand Pump Systems for 16 gallon drums.

P/N **30200-C**
Pump & Cover

P/N **30200-S1**
Pump, Cover, Dolly

P/NL **30200-S2**
Pump, Cover, Dolly and Meter

(Drum not included)



P/N **51009C-S16**
75 Gallon Cart for Two Way Oil Transfer.

P/N **51009C-S17**
95 Gallon Cart for Two Way Oil Transfer.

MOBILE SYSTEMS

MOBILE OIL DISPENSERS



P/N 24128G

6 Gallon Capacity oil dispenser pressurizes to 120 PSI air pressure to dispense oil. Includes oil level sight gauge, 6 ft. discharge hose, oil dispense valve and manual non drip tip.

P/N 24135G

Air operated oil dispenser, 21 gallon capacity. Includes 3:1 ratio pump, 12 ft. discharge hose and oil control valve with rigid spout and auto tip.

P/N 24135GMQ

Same as P/N 24135 above, except includes Electronic Meter.



P/N 24128GMQ

Same as P/N 24128 above, except includes P/N 100200 Electronic Meter.



P/N 24127G

Hand operated oil dispenser, 6 gallon capacity. Includes 6 ft. discharge hose, sight level gauge, curved spout and shutoff valve, approximately 4 strokes per quart.

P/N 24130G

Hand operated oil dispenser with 21 gallon capacity. Supplied with 6 ft. discharge hose, curved spout and shutoff valve, approximately 4 strokes per quart.

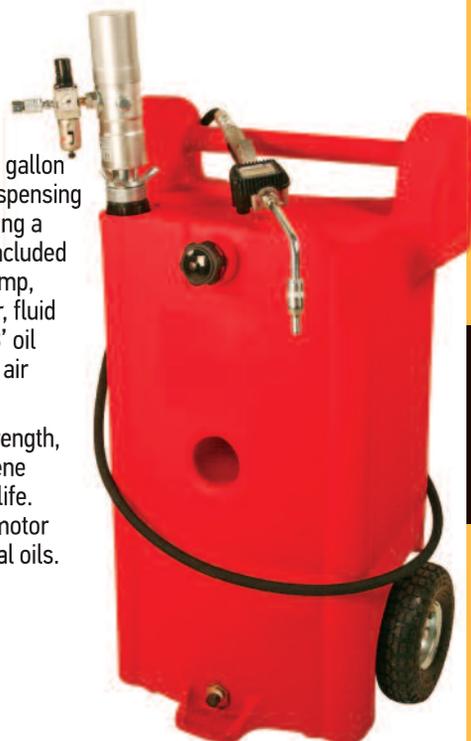
P/N 24130GMQ

Same as P/N 24130 above, except includes P/N 100200 Electronic Meter.

P/N 24137

This highly portable 25 gallon oil caddy is ideal for dispensing specialty lubricants using a 3:1 pneumatic pump. Included are a 3:1 pneumatic pump, electronic digital meter, fluid control handle, 1/2" x 8' oil discharge hose and an air filter/regulator.

Constructed of high strength, cross linked polyethylene for durability and long life. Intended for use with motor oils, ATF and differential oils.

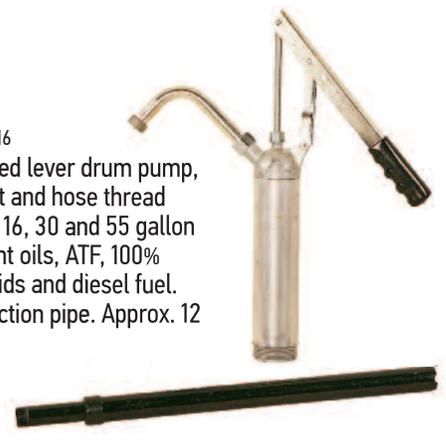


HAND OPERATED PUMPS

MODEL **MA-5R**, P/N 1005R
 Cast iron rotary hand pump, two vane construction, for use with lubricating oils. Comes complete with 2" bung adapter and three piece steel suction pipe. Not recommended for use with gasoline. Approx. 20 revolutions per gallon.



MODEL **MA-16**, P/N 10016
 Heavy duty hand operated lever drum pump, with high volume output and hose thread fitting at discharge. Fits 16, 30 and 55 gallon drums. For use with light oils, ATF, 100% antifreeze, hydraulic fluids and diesel fuel. Includes telescoping suction pipe. Approx. 12 strokes/gal.



MODEL **MA-9**, P/N 10009
 "T" Handle pump with curved "turn up" non drip spout. Includes 2" bung adapter suitable for 16 to 55 gallon drums. Typical uses include diesel fuel, light oils, ATF, antifreeze and other similar petroleum products. Approx. 1 stroke/qt.

MODEL **MA-9T**, P/N 10009T
 Same as above but with heavy duty construction for heavy duty applications.

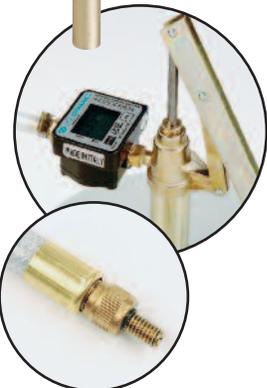
P/N **904005**
 Non Drip Tip with garden hose threads for use with MA-16 hand pumps.



MODEL **MA-10**, P/N 10010
 Lever pail pump fits 5 to 6 1/2 gallon pails. Dispenses gear lube via a 6' nylon reinforced vinyl hose with curved discharge spout. Positive lock nut holds pump securely in position. Approx. 16 strokes/pint.



MODEL **MA-10P**, 10010P
 Same as MA-10, but includes P/N 100200 Electronic pint meter.



MODEL **MA-10M**, P/N 10010M
 Same as P/N 10010 except a lower gear case fitting replaces the discharge spout. For use with outboard marine engines.



MODEL **MA-12**, P/N 10012
 Tire sealant pump constructed entirely from aluminum to prevent corrosion. Has unique double shaft seal to allow high pressure application without leakage past piston seal. Includes 2" bung adapter with integral return port, quick release coupler, graduated pump shaft and 6' nylon reinforced hose. Max. discharge volume of 8 oz. per stroke.

MODEL **MA-12-C**, P/N 10012-C
 Same as model MA-12 except this includes cover and retaining nut to fit 5 - 6 1/2 gallon container.



MODEL **MA-12-K**, P/N 10012-K
 Extension kit designed to fit models MA-12 to allow pump to be used with 16 gallon, 30 gallon and 55 gallon drums. Also includes 6' discharge hose extension.



P/N **981001R**
 5' Hose Kit with curved spout and hose clamp to fit MA-5R.

P/N **981001P**
 5' Hose Kit with curved spout and garden hose connection to fit MA-16.



HAND OPERATED PUMPS



P/N 10007-S3

Same as P/N 10007 above, but includes P/N 100200 Electronic Meter

MODEL MA-7, P/N 10007
Lever hand pump for use with heavy gear oils. Fits 16 gallon and 30 gallon drums. Comes complete with 2" bung adapter and 6' nylon reinforced discharge hose with curved discharge spout. Approx. 12 strokes/qt.

P/N 10007C

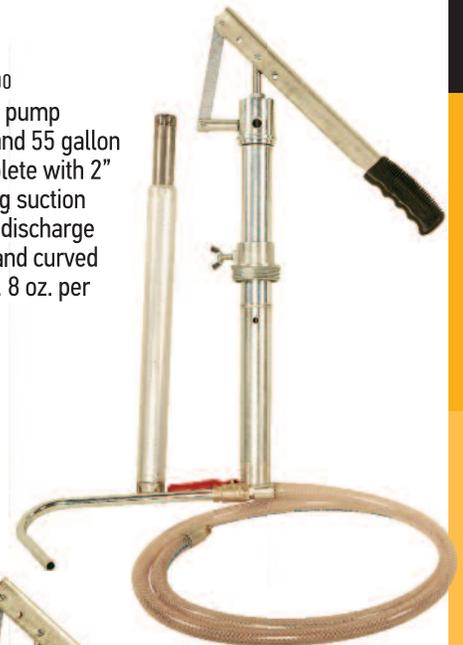
Same as P/N 10007 above, but includes cover for 16 gallon drum.



MODEL MA-70, P/N 30200
Heavy duty gear oil hand pump designed to fit 5, 16, 30 and 55 gallon containers. Comes complete with 2" bung adapter, telescoping suction pipe, 6' nylon reinforced discharge hose, ball shutoff valve and curved discharge spout. Approx. 8 oz. per stroke, and four strokes per quart.

P/N 30200-S3

Same as P/N 30200 above, but includes P/N 100200 Electronic Meter



MODEL FR31, P/N 560028

Heavy cast iron quart stroke pump that reliably and accurately dispenses one quart with each handle rotation. Rack and pinion design allows for easy calibration. Provision for padlock feature. Includes swing return drain tube and telescoping suction pipe.



P/N 30200-S2

Same as P/N 30200 above, but includes cover for 16 gallon drum.



(Drum not included)

MODEL FR112, P/N 560003

Cast aluminum rotary vane pump suitable for pumping medium viscosity liquids as well as oils, gasoline and diesel fuels. Rotary action allows smooth, continuous fluid transfer at up to 10 gallons per 100 revolutions. Complete with telescoping suction pipe, bung adapter, 8 ft. nitrile hose with nozzle and vacuum breaker to prevent siphoning.



P/N 10015

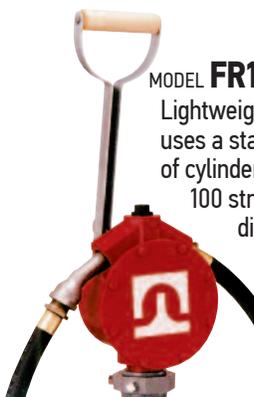
High Flow rotary hand pump discharges approximately 1 quart per revolution and can empty a 55 gallon drum in a matter of minutes. Pump body is constructed of lightweight aluminum with gear driven impellers and Nitrile seals which makes this pump ideal for transferring larger quantities of lightweight oils, hydraulic fluids, transmission fluid, antifreeze and diesel fuel.

Pump is supplied with bung adapter, suction pipe, inlet strainer and 1" x 6' oil discharge hose with nozzle.



MODEL FR152, P/N 560000

Lightweight cast aluminum piston hand pump uses a stainless steel inner liner to prevent wear of cylinder. Pump delivers up to 20 gallons per 100 strokes and is ideal for use with gasoline, diesel fuel and light oils. Includes anti-siphoning device, padlock feature, bung adapter and telescoping suction pipe.



HAND OPERATED PUMPS

MODEL MA-2, P/N 10002

Rugged polypropylene construction with polypropylene coated steel shaft and nitrile seals. Fits 5 to 55 gallon containers and comes with adapter to fit 2" buttress as well as 2" pipe threads. For use with light oils, hyd. fluid, ATF, mixed antifreeze and mild corrosive fluids. Approx. 14 strokes/gal.



MODEL MA-20, P/N 560008

Polypropylene piston pump uses Buna-N seals for transfer of fluids such as engine oil, gear oil, antifreeze and similar fluids compatible with materials of construction. Complete with telescoping suction pipe to fit drums up to 55 gallon. Approx. 12 strokes/gal.



MODEL MA-2N, P/N 10002N

Strong nylon body utilizes a stainless steel pump shaft and Teflon shaft seal for compatibility with a broad range of fluids. Pump is sized to fit 55 gallon drums, complete with 2" bung adapter and discharge spout.



MODEL MA-20V, P/N 560008V

Same as MA-20 except uses viton seals for use with diesel exhaust fluid (DEF) and various industrial chemicals such as mild acids, methyl ethyl ketone and similar fluids.



MODEL MA-3, P/N 560006

Polypropylene plunger pump screws directly onto the Reike spout on 5 gallon containers. Complete with 5' nylon reinforced hose, ball valve nozzle and spout. For use with light oils, ATF, hyd. fluid and 100% antifreeze. Approx. 4 strokes/qt.



MODEL MA-3J, P/N 560006J

Same features and construction as the MA-3 above, except made to fit 2½ gallon jug with 63mm cap. For use with light oils, ATF, hyd. fluid and 100% antifreeze. Approx. 1 fluid oz. per stroke.



MODEL MA-31, P/N 10031

Polypropylene construction with nitrile seals and stainless steel piston shaft which allows use with water, water based chemicals, mild acids and mild alkali solutions as well as oils. Approx. 16 strokes/gal.

P/N 560101

Buttress adapter allows use of NPT threaded pumps in plastic drums using buttress threads.



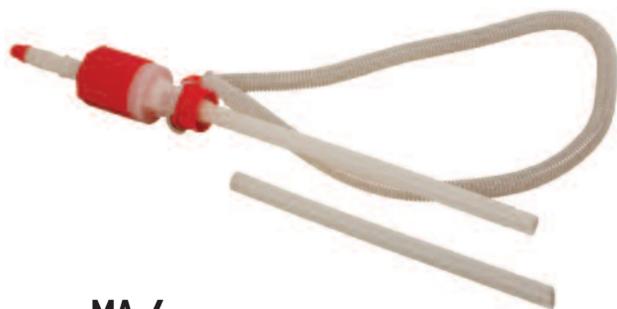
P/N 560102

NPT adapter allows use of buttress threaded pumps to be used on drums with NPT threads, 2" Buttress female x 2" NPT male.



MODEL MA-6, P/N 10006C

Heavy duty syphon pump constructed of polyethylene. For use with light oils, water, antifreeze and many chemicals. Flow rate of approx. 5 gal./min. nominal.



MODEL MA-40, P/N 560019

All brass plunger pump ideal for use with solvents and chemicals compatible with brass construction and PTFE seals. Complete with 2" NPT threads to fit 55 gallon drums. Approx. 1/2 pint/stroke. Ideal for use with brake cleaner fluids.



VALVES AND FAUCETS

Gate Valves

Available in cast iron or aluminum construction. Excellent for dispensing viscous products such as heavy oils, flowable greases, varnish and molasses from drums by gravity draining.

- P/N **900226** 3/4" Iron Gate Valve
- P/N **900227** 2" Iron Gate Valve
- P/N **900228** 3/4" Aluminum Gate Valve
- P/N **900229** 2" Aluminum Gate Valve



Drum Faucets

Constructed of polyethylene for excellent chemical resistance.

- P/N **810202** 3/4" Drum Faucet
- P/N **810201** 2" Drum Faucet



Self-Closing Drum Faucet

P/N **810233**
Zinc plated steel for improved corrosion resistance. For dispensing petroleum products, lacquers, varnishes, thinners and antifreeze from drums by gravity draining, 3/4" NPTM.



P/N **900230**

Radiator faucet with rubber spout, thumb operated control valve, 1/4" NPTF inlet thread with maximum operating pressure of 300 PSI.



P/N **900230A**

Same as P/M 900230 above, except it has 3/8" NPTF inlet threads.

1" Four-Way Reversing Valve

P/N **900372**
Simplifies plumbing and installation by eliminating the need for multiple valves typically found on waste oil systems. Allows one pump to be used to fill waste oil tank as well as to empty it, has four 1" NPTF ports. Aluminum body with brass spool. Rated to 200 PSI, 4.75" Dia. x 4.5" H.



P/N **900234**

Radiator faucet with aluminum spout, thumb operated control valve, 1/4" NPTF inlet thread, maximum operating pressure of 300 PSI.



P/N **900234W**

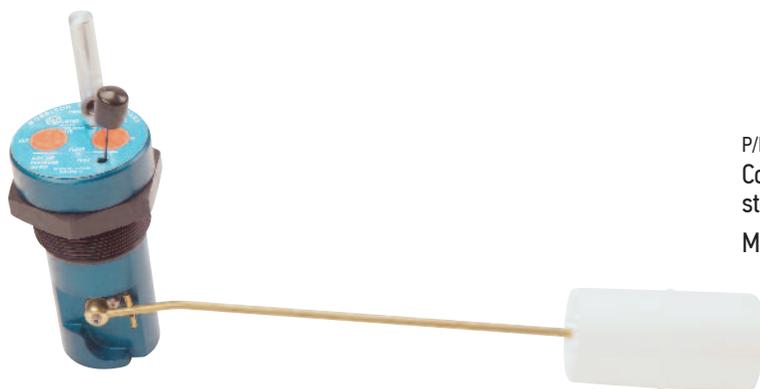
Control faucet for use with windshield washer fluid, has stainless steel wetted parts, 3/8" NPTF inlet.



Maximum operating pressure 300 PSI.

Overflow Warning Valve for Waste Oil Systems

P/N **100555-AS**
Valve installs on 2" bung opening at top of waste oil tank, air supply is routed through valve before going to the pump. Valve will close off pump air supply when liquid level reaches 90% of tank capacity diverting air to provide an audible signal.



Bung Wrench

Aluminum die-casting prevents sparks. Can be used for 3/4" and 2" bung closures.

P/N **810200**



VALVES AND FITTINGS

Isolation Valves:

Low Pressure Ball Valves, for use with air and water applications. Rated to 600 PSI maximum working pressure, bronze construction.

P/N 900366	1/4" NPTF
P/N 900367	3/8" NPTF
P/N 900285	1/2" NPTF
P/N 900287	3/4" NPTF
P/N 900288	1" NPTF
P/N 900324	1/2" NPTF w/bleed-off



Medium Pressure Ball Valves, for use with oil systems. Rated to 2,000 PSI maximum working pressure, carbon steel construction.

P/N 900286	1/2" NPTF
P/N 900299	3/4" NPTF
P/N 900371	1" NPTF



High Pressure Needle Valve, for use with grease systems. Rated to 10,000 PSI maximum working pressure, carbon steel construction.

P/N 900787	1/2" NPTF
P/N 900360	3/4" NPTF



Nipple – Reducing

Part No.	Thread Size Male x Male, NPT
900382	1/4" x 1/8" NPT
900383	3/8" x 1/4" NPT
900384	1/2" x 1/4" NPT
900385	1/2" x 3/8" NPT
900386	3/4" x 1/2" NPT
900399	1" x 3/4" NPT



Plug – Square Head

Part No.	Thread Size NPT Male
900265	1/4" NPT
900284	3/8" NPT
900404	1/2" NPT
900405	3/4" NPT
900406	1" NPT

Pipe Adapter:

Part No.	Thread Size Female x Male, NPT
900392	3/8" x 1/4" NPT
900393	1/2" x 1/4" NPT
900342	1/2" x 3/8" NPT
900394	3/4" x 1/2" NPT
900398	1" x 3/4" NPT



Reducing Bushings:

Part No.	Thread Size Male x Female, NPT
900375	1/4" x 1/8" NPT
900361	3/8" x 1/4" NPT
900231	1/2" x 1/4" NPT
900376	1/2" x 3/8" NPT
900328	3/4" x 1/2" NPT
900377	1" x 1/2" NPT
900323	1" x 3/4" NPT
900365	1 1/2" x 1" NPT
900510	2" NPTM x 1/2" NPTF



Elbow

Part No.	Thread Size Male x Female, NPT
900387	1/4" x 1/4" NPT
900388	3/8" x 3/8" NPT
900262	1/2" x 1/2" NPT
900389	3/4" x 3/4" NPT
900390	1" x 1" NPT
900417	1" x 1" NPTF both ends

Nipple – Standard

Part No.	Thread Size Male x Male, NPT
900232	1/4" x 1/4" NPT
900313	3/8" x 3/8" NPT
900314	1/2" x 1/2" NPT
900397	3/4" x 3/4" NPT (close)
900396	1" x 1" NPT (close)



Coupler

Part No.	Thread Size Female x Female, NPT
900223	1/4" x 1/4" NPT
900401	3/8" x 3/8" NPT
900327	1/2" x 1/2" NPT
900402	3/4" x 3/4" NPT
901036	1" x 1" NPT



MEASURES AND FUNNELS

Plastic Measures

Transparent high density polyethylene construction with flex spout, cap and lid to prevent contamination.

P/N **810240** 1 Quart Measure

P/N **810241** 2 Quart Measure

P/N **810244** 5 Quart Measure

P/N **950010**

Combo Kit includes 5qt. Pitcher and 7" Funnel.



Transmission Funnel

P/N **810270**

Six inch funnel with a 13" flexible spout. High density polyethylene construction.



3 Piece Funnel Set

P/N **810272**

Sizes include 1 ea. 2 quart, 1 pint and 1/2 pint funnels. High density polyethylene construction.

Plastic Funnels

Molded from high density polyethylene. Complete with flex spout, threaded cap, lid and screen filter.

P/N **810253** 7" diameter funnel

P/N **810254** 9" diameter funnel



P/N **810261**

10" diameter drain funnel screws securely to 2" drum or tank openings. Allows rapid filling without danger of funnel tipping over. Hinged cover prevents contamination and may be pad locked. 3.5 quart capacity.



Super Funnel

P/N **810271**

Five inch diameter funnel with tapered rigid length of 18". High density polyethylene construction.

Super Funnel

P/N **2400-14**

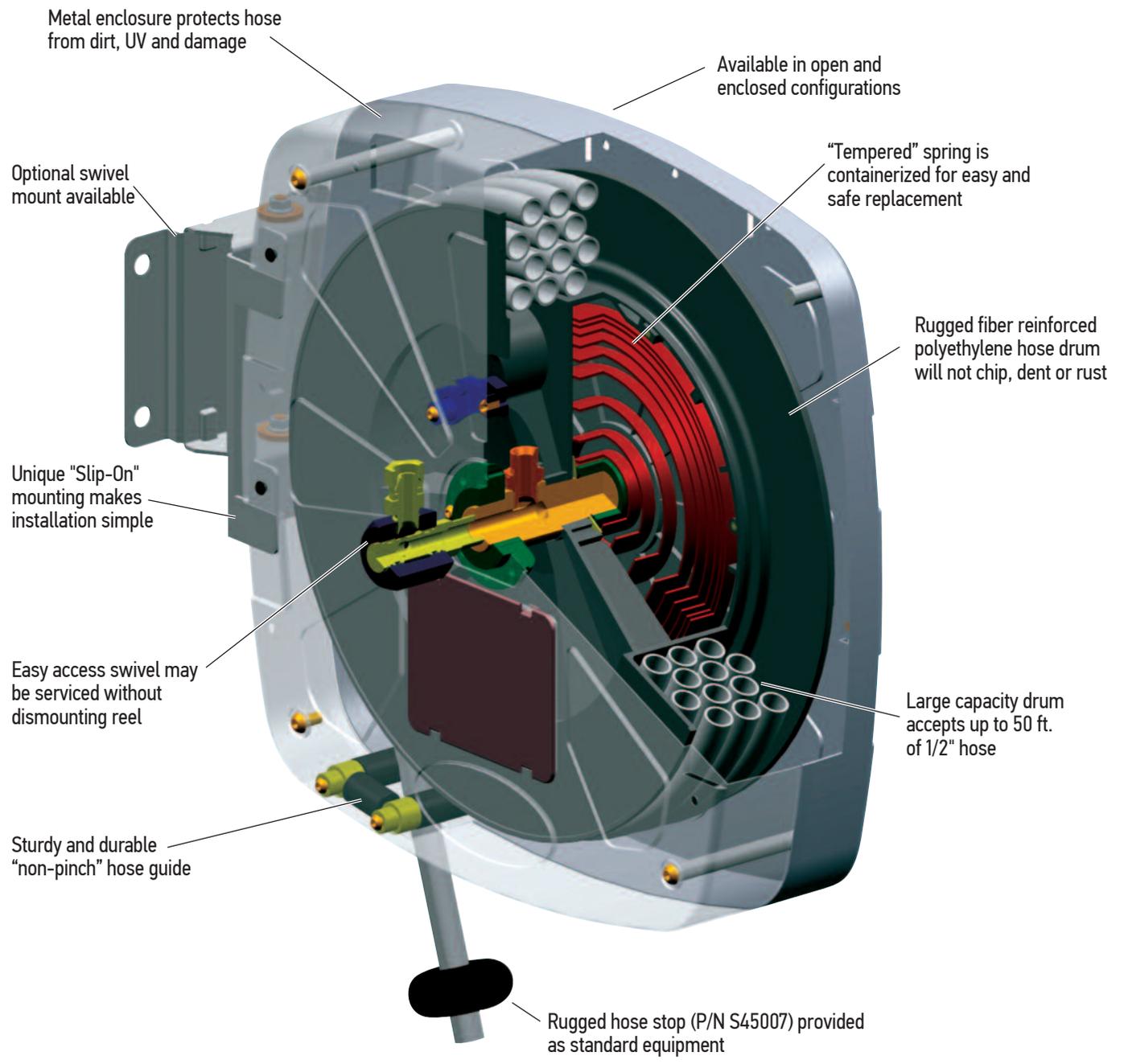
Eliminate overspills while pouring. Large surface area permits drainage of multiple containers simultaneously. Highly durable, it will resist rust, dents and chemicals and will give many years of trouble free service. Fits all types of 55 gallon drums.



SPRING REWIND HOSE REELS

A great tool for the modern workplace. Provides for a safer, cleaner and more efficient working environment. Constructed of heavy gauge steel with a high density polypropylene hose drum

for durability. These reels are extremely rugged and intended for heavy duty use.



SPRING REWIND HOSE REELS – OIL

Open Reel, 43002 and 43003 Series:

An excellent tool to ensure a clean, efficient and safe working environment. These reels are constructed of heavy gauge, powder coated steel with a high density polypropylene hose drum to ensure durability and corrosion resistance. Reels have double pedestal and double arm construction for rigidity. Easy access inlet swivel design utilizes “quad” seals with PTFE backup and secondary ‘O’ Ring to ensure long life. Hose guide arms are adjustable to allow bench, wall or ceiling mounting.

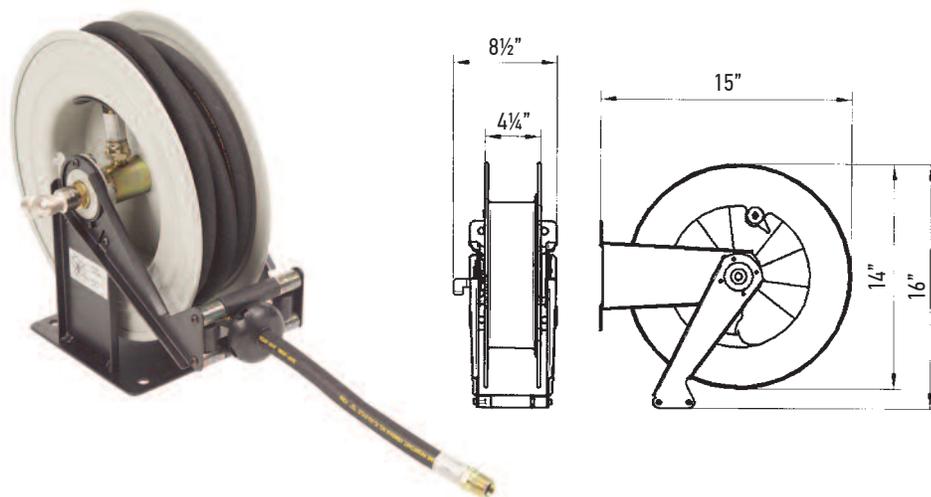
Both open and enclosed reel styles are supplied standard with rigid, fixed mounts. An optional swivel mount bracket is available for both the open and enclosed reel styles.

NOTE: Reels are supplied complete with ball stop and 1/2" x 2' connecting hose. Maximum vertical mounting height is 12'. Contact Liquidynamics if higher mounting height is required.

Compact Hose Reel:

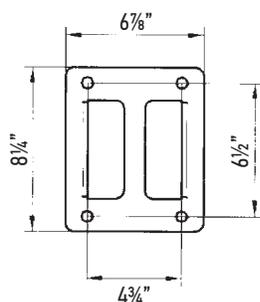
P/N 43003-25L

This compact reel offers heavy duty steel construction with corrosion resistant powder coated finish, fully enclosed with lubricated spring and full flow swivel to minimize pressure drop. The hose guide arm is easily adjusted to allow wall, ceiling or floor mounting.

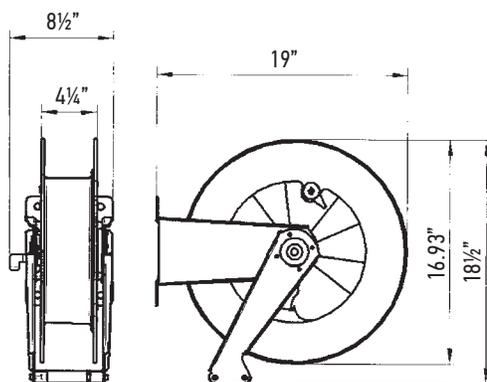


Mounting Pattern

Common both reels.



P/N 43002



	P/N 43002	P/N 43002-25L	P/N 43002-30L	P/N 43002-40L	P/N 43002-50L	P/N 43003	P/N 43003-25L
Working Pressure	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI
Hose Length	—	25 ft.	30 ft.	40 ft.	50 ft.	—	25 ft.
Hose Dia., ID	—	1/2"	1/2"	1/2"	1/2"	—	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	2 ft.	—	2 ft.
Shipping Weight, lb.	28	36	38	40	43	27	36

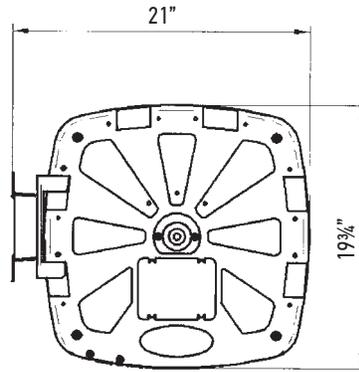
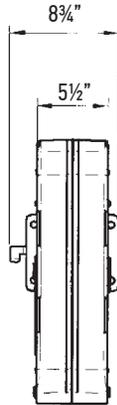
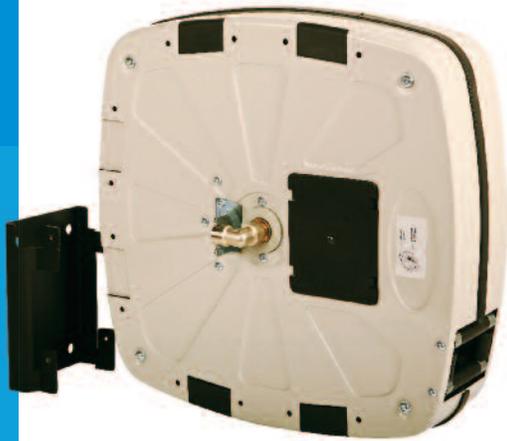
Note: See page 76 for reel mounting kits.

SPRING REWIND HOSE REELS – OIL

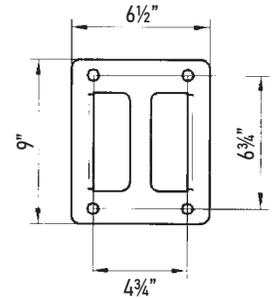
Enclosed Reel, 44002 Series:

The 44002 series enclosed reel provides hose protection from dirt, UV and physical damage as well as improved aesthetics. Enclosed reels are easy to mount via a unique “slip-on” reel mounting system. Additionally, these reels provide simple

maintenance via an easy access swivel, which can be serviced without dismounting the reel. The tempered, containerized spring allows quick and safe replacement. Reels are supplied complete with hose stop and 1/2” x 2’ jumper hose.



Mounting Pattern



	P/N 44002	P/N 44002-25L	P/N 44002-30L	P/N 44002-40L	P/N 44002-50L
Working Pressure	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI
Hose Length	—	25 ft.	30 ft.	40 ft.	50 ft.
Hose Dia., ID	—	1/2"	1/2"	1/2"	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM
3/8" Max. Winding Capacity	60 ft.	—	—	—	—
1/2" Max. Winding Capacity	50 ft.	—	—	—	—
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	2 ft.
Shipping Weight, lb.	39	47	48	51	52

Spring Rewind Hose Reels – Large Capacity:

P/N 88501-100L

High capacity oil reel has double pedestal and double arm construction for rigidity and is powder coated for durability. Reel has 1/2” x 100’ hose with double ratchet to allow more precise hose latching, supplied with large, heavy duty hose stop. Reel arms and hose guide can be easily adjusted to allow tank/floor, wall or ceiling mounting.

1/2” NPTF inlet and 1/2” NPTM fitting at discharge side of hose
27” H x 10 1/2” W x 27” L (add 2 1/2” to width for swivel), 150 lb. shipping weight.

See page 66 for technical specifications.



SPRING REWIND HOSE REELS – OIL

Spring Rewind Hose Reels – Large Capacity:

These large capacity hose reels are ideal for use with 1/2" hose up to 75', 3/4" hose up to 50' lengths and 1" hose with lengths up to 40'. They are compact, sturdy and versatile. Reels are constructed from heavy gauge steel with full double pedestal and

double arm supports for rigidity and powder coated for durability. Support arm is easily adjusted to allow installation on ceiling, wall, floor or bench without binding hose. Hose ball stop included.

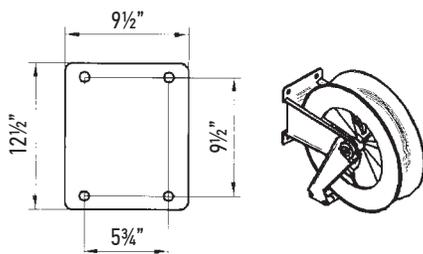
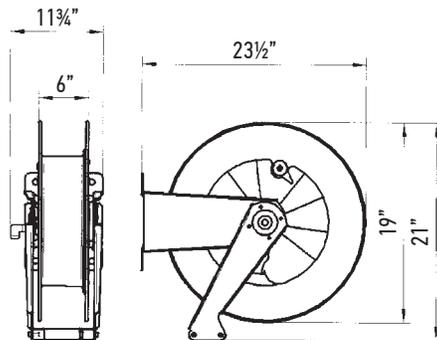


P/N 88402-40L shown

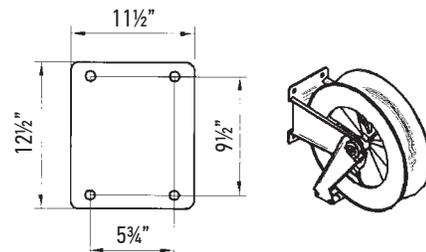
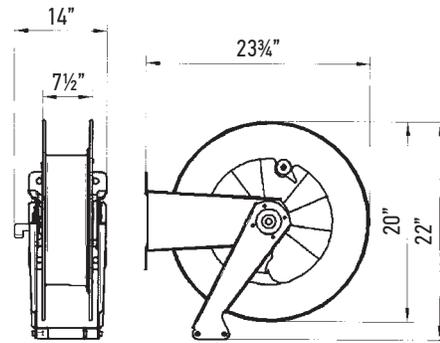


P/N 88405-40L shown

88402 and 88403 Series



88405 Series



	P/N 88403-50L	P/N 88403-75L	P/N 88402	P/N 88402-40L	P/N 88402-50L	P/N 88405	P/N 88405-30L	P/N 88405-40L
Working Pressure	1,160 PSI	1,160 PSI	1,160 PSI	1,160 PSI	870 PSI	1,160 PSI	1,160 PSI	1,160 PSI
Hose Length	50 ft.	75 ft.	—	40 ft.	50 ft.	—	30 ft.	40 ft.
Hose Dia., ID	1/2"	1/2"	—	3/4"	3/4"	—	1"	1"
Inlet Connection	1/2" NPTF	1/2" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF	1" NPTF	1" NPTF	1" NPTF
Max Winding Capacity	1/2" x 75'	1/2" x 75'	3/4" x 50'	—	—	1" x 40'	—	—
Connecting Hose	2 ft.	2 ft.	—	See Note	See Note	—	See Note	See Note
Shipping Weight	79 lb	86 lb	54 lb	74 lb	80 lb	74 lb	93 lb	97 lb

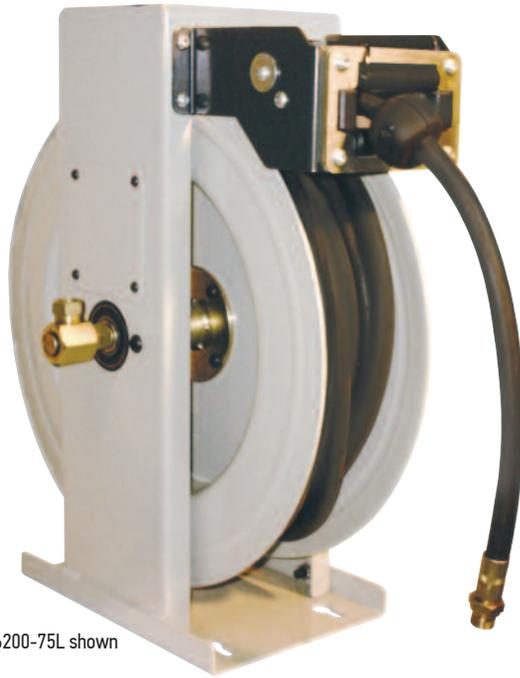
NOTE: Order connecting hose separately to fit your specific installation

SPRING REWIND HOSE REELS – EXTREME DUTY

These reels are intended for industrial applications where an extra heavy duty reel is required. Reels are constructed from thick gauge, powder coated steel with full double pedestal drum supports. Drum shaft is 3/4" diameter supported by ball bearings on each

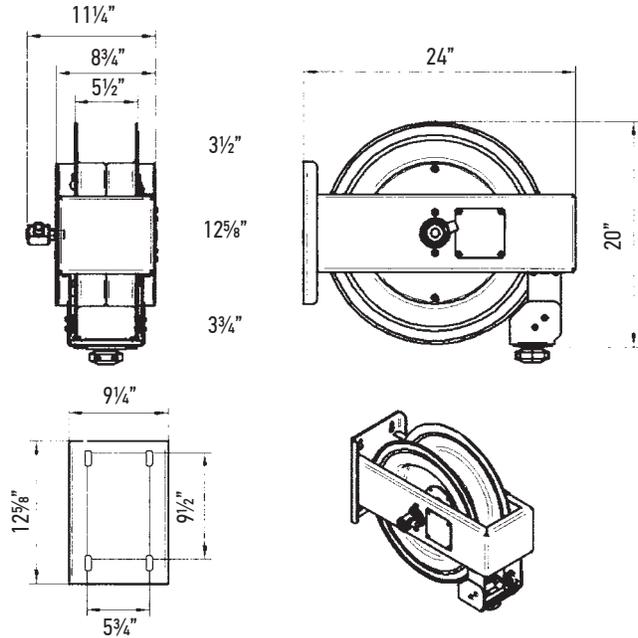
side. Inlet swivel is machined solid brass with easily accessible seals for simple maintenance.

46200 series reels are supplied complete with ball stop and connecting hose.



P/N 46200-75L shown

46200 Series

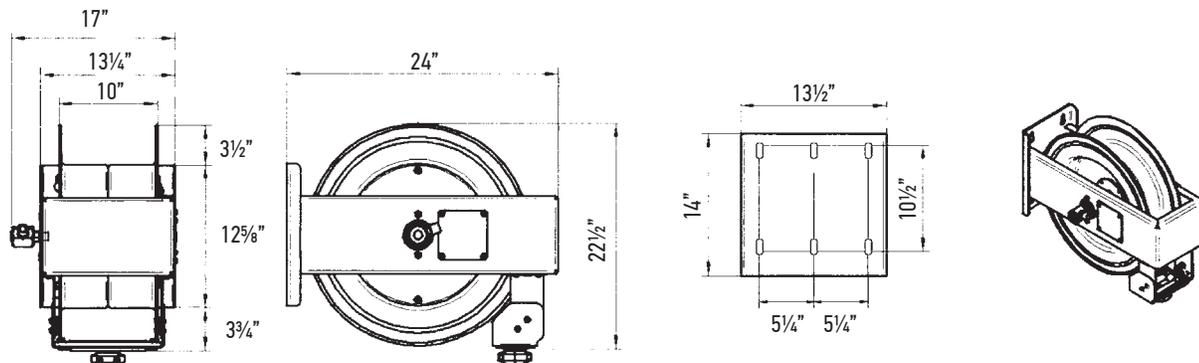


	P/N 46200	P/N 46200-50L	P/N 46200-75L	P/N 88501-100L*	P/N 46500	P/N 46501-50L	P/N 46502-40L
Working Pressure	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,160 PSI	1,160 PSI	1,160 PSI
Hose Length	—	50 ft.	75 ft.	100 ft.	—	50 ft.	40 ft.
Hose Dia., ID	—	1/2"	1/2"	1/2"	—	3/4"	1"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM	1/2" NPTM	1" NPTM	3/4" NPTM	1" NPTM
1/2" Max. Winding Capacity	75 ft.	—	—	—	—	—	—
1" Max. Winding Capacity	—	—	—	—	45 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.	—	—	See Note	See Note
Shipping Weight, lb.	75	97	103	150	109	94	96

NOTE: Order connecting hose separately to fit your specific installation.

*P/N 88501-100L shown on page 64.

46500 Series



SPRING REWIND HOSE REELS – GREASE

Open Reel, 43102, 43103 and 43104 Series:

An excellent tool to ensure a clean, efficient and safe working environment. These reels are constructed of heavy gauge, powder coated steel with a high density polypropylene hose drum (43104 has steel drum) to ensure durability and corrosion resistance. Reels have double pedestal and double arm construction for rigidity. Easy access inlet swivel design utilizes “quad” seals with PTFE backup and secondary ‘O’ Ring to ensure

long life. Hose guide arms are adjustable to allow bench, wall or ceiling mounting.

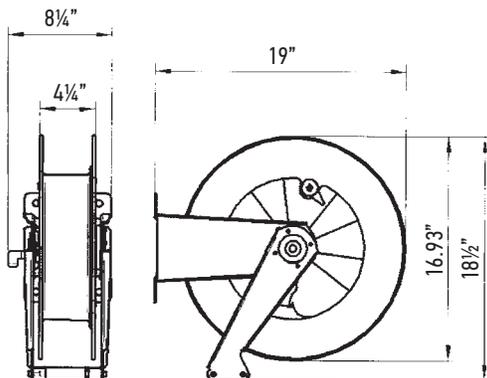
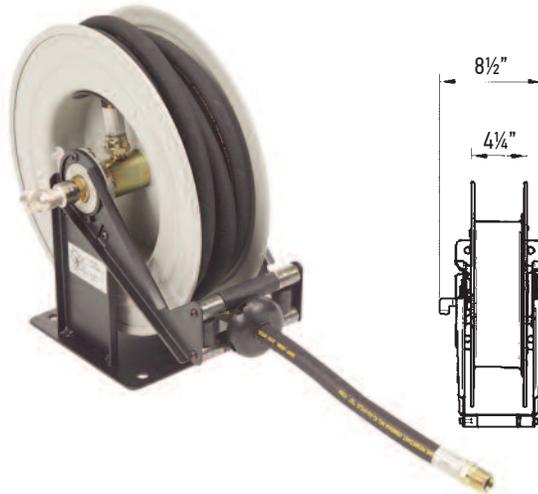
Both open and enclosed reel styles are supplied standard with rigid, fixed mounts. An optional swivel mount bracket is available for both the open and enclosed reel styles.

Reels are supplied complete with ball stop and connecting hose.

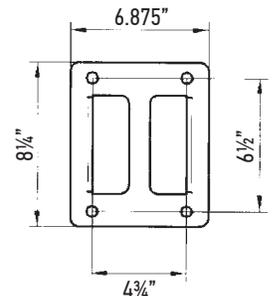
Compact Hose Reel:

P/N **43104**

This compact reel offers heavy duty construction with corrosion resistant powder coated finish, fully enclosed and lubricated spring and full flow swivel to minimize pressure drop. The hose guide arm is easily adjusted to allow wall, ceiling or floor mounting.



Mounting Pattern
Common both reels.



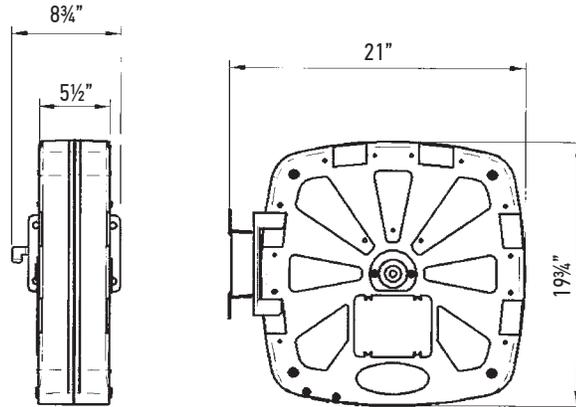
	P/N 43102	P/N 43102-306	P/N 43102-506	P/N 43103-306	P/N 43103-506	P/N 43104	P/N 43104-256	43104-306
Working Pressure	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI
Hose Length	—	30 ft.	50 ft.	30 ft.	50 ft.	—	25 ft.	30 ft.
Hose Dia., ID	—	1/4"	1/4"	3/8"	3/8"	—	1/4"	1/4"
Inlet Connection	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF
Outlet Connection	1/4" NPTM	1/4" NPTM	1/2" NPTF	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM
1/4" Max. Winding Cap.	65 ft.	—	—	—	—	35 ft.	—	—
3/8" Max. Winding Cap.	60 ft.	—	—	—	—	30 ft.	—	—
Connecting Hose L.	—	2 ft.	2 ft.	2 ft.	2 ft.	—	2 ft.	2 ft.
Shipping Weight, lb.	28	35	40	40	45	27	33	35

SPRING REWIND HOSE REELS – ENCLOSED DRUM – GREASE

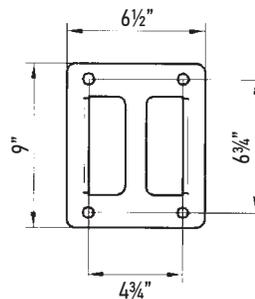
Enclosed Reel, 44100 Series:

The 44100 series enclosed reel provides hose protection from dirt, UV and physical damage as well as improved aesthetics. Enclosed reels are easy to mount via a unique “slip-on” reel mounting system. Additionally, these reels provide simple

maintenance via an easy access swivel, which can be serviced without dismounting the reel. The tempered, containerized spring allows quick and safe replacement. Reels are supplied complete with hose stop and jumper hose.



Mounting Pattern



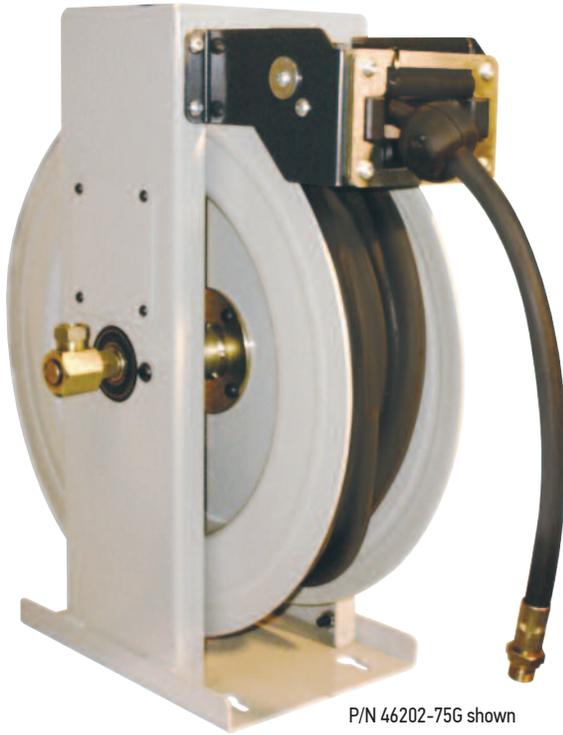
	P/N 44102	P/N 44102-30G	P/N 44102-50G	P/N 44103-30G	P/N 44103-50G
Working Pressure	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI
Hose Length	—	30 ft.	50 ft.	30 ft.	50 ft.
Hose Dia., ID	—	1/4"	1/4"	3/8"	3/8"
Inlet Connection	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF
Outlet Connection	1/4" NPTF	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM
1/4" Max. Winding Capacity	65 ft.	—	—	—	—
3/8" Max. Winding Capacity	60 ft.	—	—	—	—
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	2 ft.
Shipping Weight, lb.	39	47	52	52	57

HOSE REELS – EXTREME DUTY – GREASE

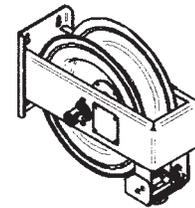
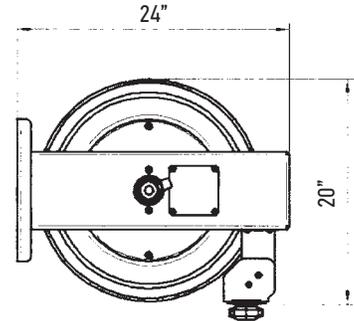
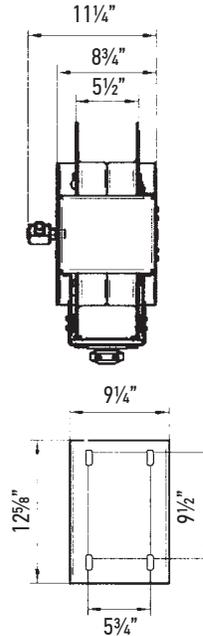
These reels are intended for extreme applications where an extra heavy duty reel is required. Reels are constructed from thick gauge, powder coated steel with full double pedestal drum supports. Drum shaft is 3/4" diameter supported by ball bearings on each

side. Inlet swivel is machined solid brass with easily accessible seals for simple maintenance.

Reels are supplied complete with ball stop and connecting hose.



P/N 46202-75G shown



	P/N 46201	P/N 46201-50G	P/N 46201-75G	P/N 46202-50G	P/N 46202-75G
Working Pressure	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI
Hose Length	—	50 ft.	75 ft.	50 ft.	75 ft.
Hose Dia., ID	—	1/4"	1/4"	3/8"	3/8"
Inlet Connection	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF
Outlet Connection	1/4" NPTF	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM
1/4" Max. Winding Capacity	80 ft.	—	—	—	—
3/8" Max. Winding Capacity	80 ft.	—	—	—	—
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	2 ft.
Shipping Weight, lb.	82	95	100	100	106

SPRING REWIND HOSE REELS – OPEN DRUM – AIR/WATER

Open Reel, 43002 and 43003 Series:

An excellent tool to ensure a clean, efficient and safe working environment. Liquidynamics reels are constructed of heavy gauge, powder coated steel with a high density polypropylene hose drum to ensure durability and corrosion resistance. These reels are extremely rugged and are intended for heavy duty use.

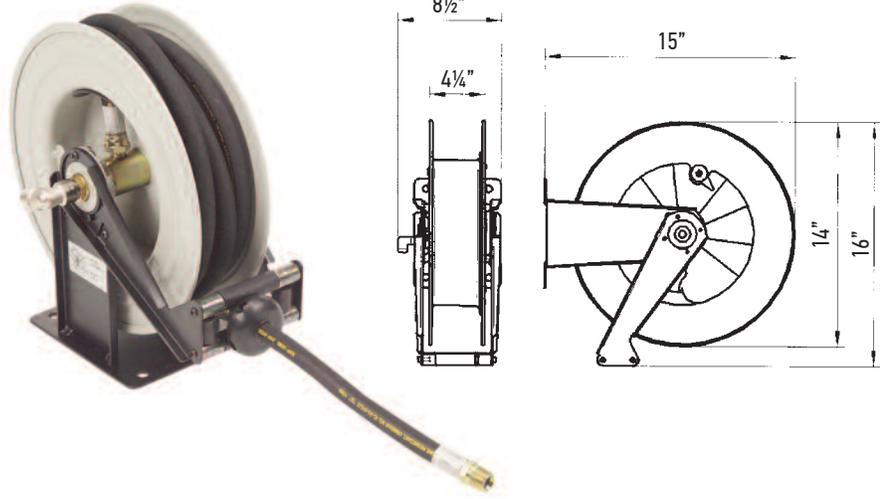
Both open and enclosed styles are supplied with a standard rigid fixed mount. An optional swivel mount bracket is available for both the open and enclosed reel styles.

NOTE: Reels are supplied complete with ball stop and connecting hose. Maximum vertical mounting height is 15'.

Compact Hose Reel:

P/N 43003-30A

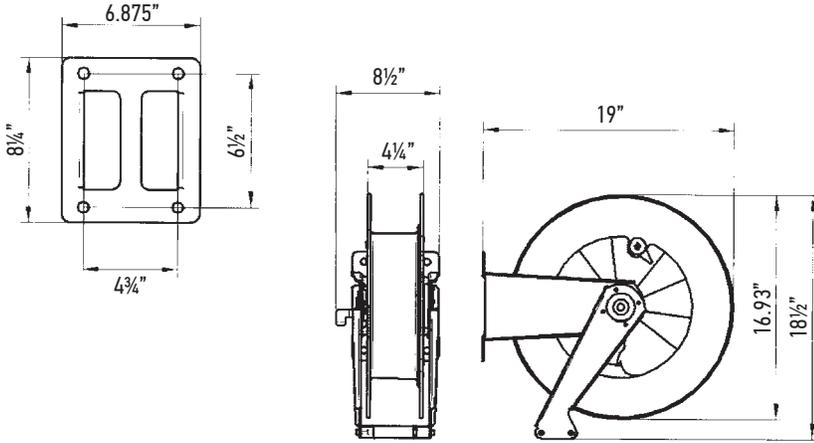
This compact reel offers heavy duty steel construction with corrosion resistant powder coated finish. Fully enclosed and lubricated spring and full flow swivel to minimize pressure drop. The hose guide arm is easily adjusted to allow wall, ceiling or floor mounting.



Mounting Pattern

Common both reels.

P/N 43002



P/N 43002 shown

	P/N 43002	P/N 43002-30A	P/N 43002-50A	P/N 43002-50A2	P/N 43003	P/N 43003-30A	P/N 43003-50A
Working Pressure	1,160 PSI	300 PSI	300 PSI	300 PSI	1,160 PSI	300 PSI	300 PSI
Hose Length	—	30 ft.	50 ft.	50 ft.	—	30 ft.	50 ft.
Hose Dia., ID	—	3/8"	3/8"	1/2"	—	3/8"	3/8"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	3/8" NPTF	3/8" NPTF
Outlet Connection	1/2" NPTF	3/8" NPTM	3/8" NPTM	1/2" NPTM	1/2" NPTM	3/8" NPTF	3/8" NPTF
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	—	2 ft.	2 ft.
Shipping Weight, lb.	28	34	37	42	27	32	38

SPRING REWIND HOSE REELS – OPEN DRUM – AIR/WATER

Economy Air Reels, 48002 and 48003:



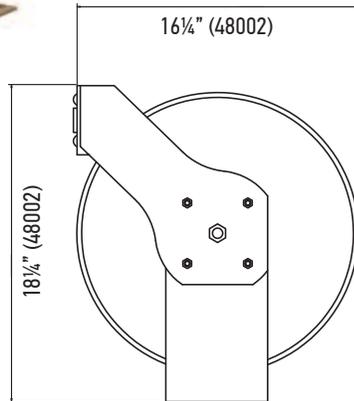
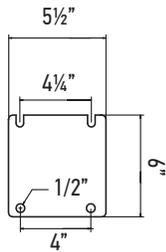
P/N 48002-50A shown



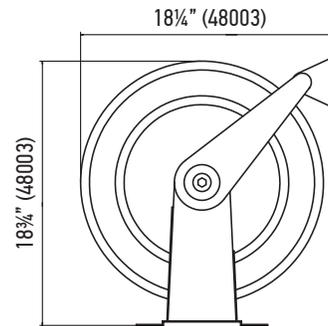
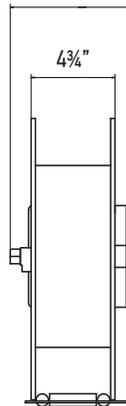
P/N 48003-50A shown

	P/N 48002-50A	P/N 48003-50A
Working Pressure	300 PSI	300 PSI
Hose Length	50 ft.	50 ft.
Hose Dia., ID	3/8"	3/8"
Inlet Connection	3/8" NPTF	3/8" NPTF
Outlet Connection	3/8" NPTM	3/8" NPTM
Connecting Hose Length	—	2 ft.
Shipping Weight, lb.	36	38

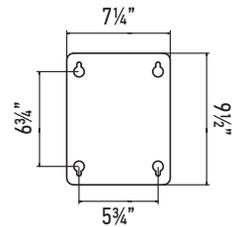
Mounting Pattern (48002)



7" (48002)
9 1/2" (48003)

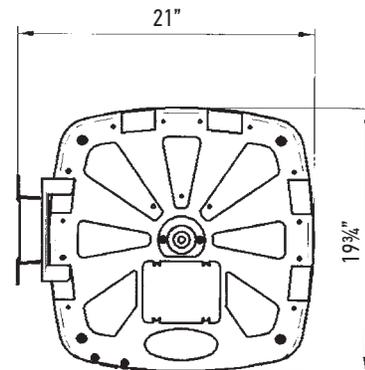
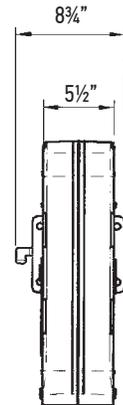


Mounting Pattern (48003)

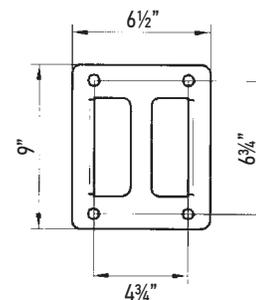


SPRING REWIND HOSE REELS – ENCLOSED DRUM – AIR/WATER

Enclosed Reel, 44002 Series:



Mounting Pattern

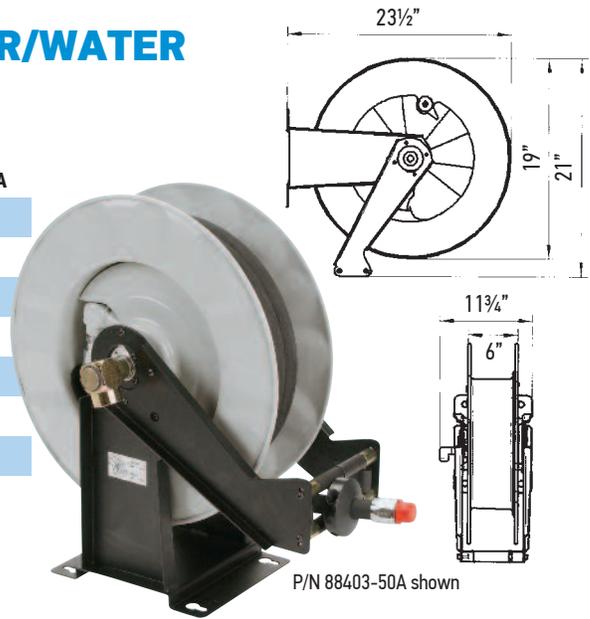


	P/N 44002	P/N 44002-30A	P/N 44002-50A
Working Pressure	1,160 PSI	300 PSI	300 PSI
Hose Length	—	30 ft.	50 ft.
Hose Dia., ID	—	3/8"	3/8"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	3/8" NPTM	3/8" NPTM
3/8" Max. Winding Capacity	60 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.
Shipping Weight, lb.	39	46	49

SPRING REWIND HOSE REELS AIR/WATER

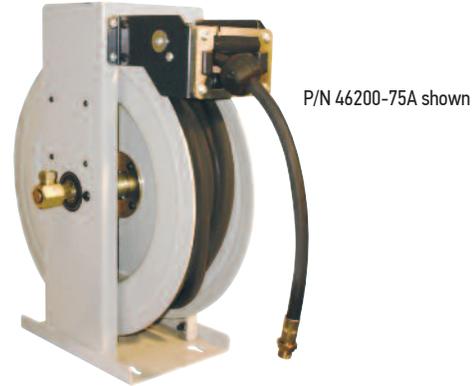
Large Capacity, 88403 Series:

	P/N 88403	P/N 88403-50A	P/N 88403-75A
Working Pressure	1,160 PSI	250 PSI	250 PSI
Hose Length	—	50 ft.	75 ft.
Hose Dia., ID	—	1/2"	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM
3/8" Max. Winding Capacity	80 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.
Shipping Weight, lb.	62	68	74



Extreme Duty 46200 Series:

	46200	46200-50A	46200-75A
Working Pressure	1,160 PSI	250 PSI	250 PSI
Hose Length	—	50 ft.	75 ft.
Hose Dia., ID	—	1/2"	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM
1/2" Max. Winding Capacity	80 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.
Shipping Weight, lb.	75	82	86



Stainless Steel 47400 and 47500 Series:



	47400	47400-30	47400-50
Working Pressure	2,900 PSI	300 PSI	300 PSI
Hose Length	—	30 ft.	50 ft.
Hose Dia., ID	—	3/8"	3/8"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM
3/8" Max. Winding Capacity	60 ft.	—	—
1/2" Max. Winding Capacity	50 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.
Shipping Weight, lb.	28	40	45



	47500	47501-75	47502-50	47502-75
Working Pressure	300 PSI	300 PSI	300 PSI	300 PSI
Hose Length	—	75 ft.	50 ft.	75 ft.
Hose Dia., ID	—	3/8"	1/2"	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM	1/2" NPTM
3/8" Max. Winding Capacity	60 ft.	—	—	—
1/2" Max. Winding Capacity	80 ft.	—	—	—
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.
Shipping Weight, lb.	74	89	76	87

SPRING REWIND HOSE REELS – FUEL

Spring Rewind Hose Reels – Large Capacity:

These large capacity hose reels are ideal for use with 3/4" hose up to 50' lengths and 1" hose with lengths up to 40'. They are compact, sturdy and versatile. Reels are constructed from heavy

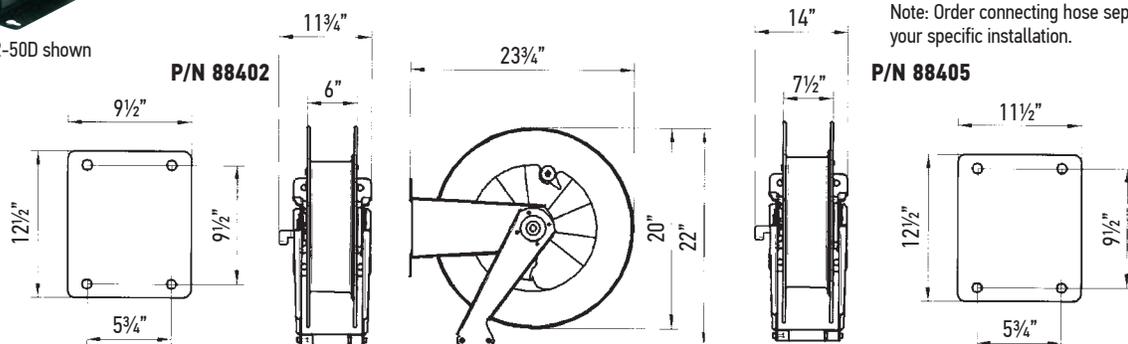
gauge steel with full double pedestal and double arm supports for rigidity and powder coated for durability. Support arm is easily adjusted to allow installations on ceiling, wall, floor or bench without binding of hose. Hose ball stop included.

Diesel 88400 Series:



P/N 88402-50D shown

	88402	88402-40D	88402-50D	88405	88405-30D	88405-40D
Working Pressure	870 PSI	150 PSI	150 PSI	870 PSI	150 PSI	150 PSI
Hose Length	—	40 ft.	50 ft.	—	30 ft.	40 ft.
Hose Dia., ID	—	3/4"	3/4"	—	1"	1"
Inlet Connection	3/4" NPTF	3/4" NPTF	3/4" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	3/4" NPTF	3/4" NPTM	3/4" NPTM	1" NPTM	1" NPTM	1" NPTM
Max. Winding Capacity	3/4" x 50'	—	—	1" x 40'	—	—
Connecting Hose	—	Note	Note	—	Note	Note
Shipping Weight, lb.	62	78	86	74	84	96



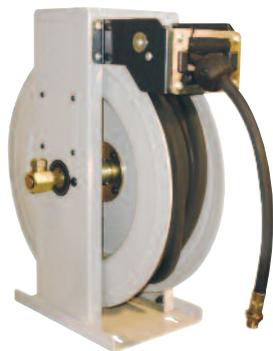
Note: Order connecting hose separately to fit your specific installation.

These reels are intended for industrial applications where an extra heavy duty reel is required. Reels are constructed from thick gauge, powder coated steel with full double pedestal drum supports.

Drum shaft is 3/4" diameter supported by ball bearings on each side. Inlet swivel is machined solid brass with easily accessible seals for simple maintenance.

46000 series reels are supplied complete with ball stop.

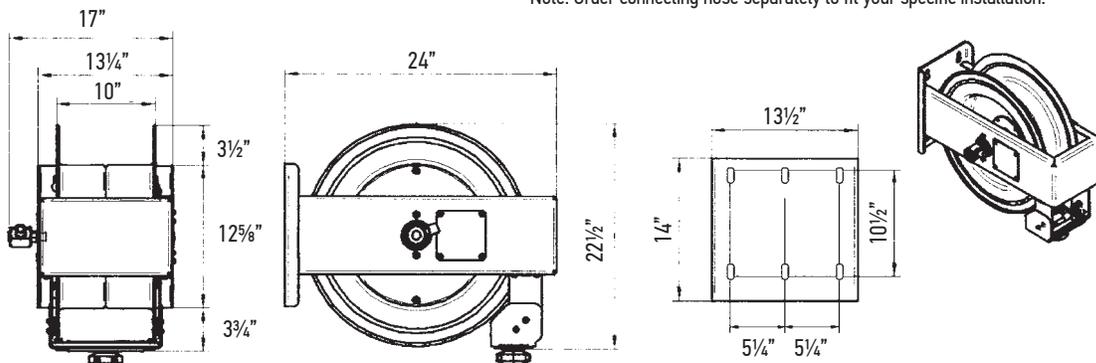
Diesel Reel, 46500 Series:



P/N 46504-50D shown

	46500	46504-25D	46504-50D	46505-25D	46505-40D
Working Pressure	1,160 PSI	150 PSI	150 PSI	150 PSI	150 PSI
Hose Length	—	25 ft.	50 ft.	25 ft.	40 ft.
Hose Dia., ID	—	3/4"	3/4"	1"	1"
Inlet Connection	1" NPTF				
Outlet Connection	1" NPTF	3/4" NPTM	3/4" NPTM	1" NPTM	1" NPTM
Connecting Hose Length	—	Note	Note	Note	Note
Shipping Weight, lb.	109	128	146	130	142

Note: Order connecting hose separately to fit your specific installation.



FLUID AND AIR HOSES – LOW & MEDIUM PRESSURE

These hoses are suitable for use with Air, Water, Oil, Hydraulic Fluid, Transmission Fluid and Antifreeze as appropriate. Hoses are typically supplied with a rigid fitting on one side and a swivel fitting on the other side.

Please contact Liquidynamics if you require a special hose type, length or fittings.

LOW PRESSURE AIR AND WATER HOSE

A premium high quality multi-purpose hose that is an excellent choice for air and water applications. The hose is constructed with high tensile textile cord reinforcement and a red neoprene cover. This construction provides excellent kink resistance, a working pressure of 300 PSI, a 4:1 safety factor and a temperature range of -20° F to +212° F.

P/N	HOSE SIZE	FITTINGS	NOTE
81100-02	3/8" x 2'	1/4" x 1/4"	(A)
81100-04	3/8" x 4'	1/4" x 1/4"	(A)
81100-06	3/8" x 6'	1/4" x 1/4"	(A)
81100-10	3/8" x 10'	1/4" x 1/4"	(A)
81100-15	3/8" x 15'	1/4" x 1/4"	(A)
81100-25	3/8" x 25'	1/4" x 1/4"	(A)
81100-30	3/8" x 30'	1/4" x 1/4"	(A)
81100-40	3/8" x 40'	1/4" x 1/4"	(A)
81100-50	3/8" x 50'	1/4" x 1/4"	(A)
81125-02	3/8" x 2'	3/8" x 3/8"	(A)
81125-04	3/8" x 4'	3/8" x 3/8"	(A)
81125-06	3/8" x 6'	3/8" x 3/8"	(A)
81125-10	3/8" x 10'	3/8" x 3/8"	(A)
81125-15	3/8" x 15'	3/8" x 3/8"	(A)
81125-25	3/8" x 25'	3/8" x 3/8"	(A)
81125-30	3/8" x 30'	3/8" x 3/8"	(A)
81125-40	3/8" x 40'	3/8" x 3/8"	(A)
81125-50	3/8" x 50'	3/8" x 3/8"	(A)
81150-02	1/2" x 2'	1/2" x 1/2"	(A)
81150-04	1/2" x 4'	1/2" x 1/2"	(A)
81150-06	1/2" x 6'	1/2" x 1/2"	(A)
81150-10	1/2" x 10'	1/2" x 1/2"	(A)
81150-15	1/2" x 15'	1/2" x 1/2"	(A)
81150-25	1/2" x 25'	1/2" x 1/2"	(A)
81150-30	1/2" x 30'	1/2" x 1/2"	(A)
81150-40	1/2" x 40'	1/2" x 1/2"	(A)
81150-50	1/2" x 50'	1/2" x 1/2"	(A)
81150-75	1/2" x 75'	1/2" x 1/2"	(A)

(A) NPTM Rigid fitting x NPTM Swivel fitting

MEDIUM PRESSURE OIL HOSE 1/2" ID

For use with all ratio pumps up to and including 13:1 pumps.

An excellent general purpose hose used for oil, hydraulic fluid, transmission fluid and antifreeze. Hose is constructed with a neoprene tube, high tensile steel wire braid and oil and weather resistant synthetic rubber. Hose is rated to a maximum working pressure of 4,000 PSI and a minimum burst of 10,000 PSI and has a temperature range of -40° F to +250° F. The hose is SAE/USCG marine listed and exceeds SAE 100R1 specifications. It is very flexible with a minimum bend radius of 3.0 inches, OD is 0.75". Hose may be used for suction or discharge.

P/N	HOSE SIZE	FITTINGS	NOTE
81200-02	1/2" x 2'	1/2" x 1/2"	(A)
81200-04	1/2" x 4'	1/2" x 1/2"	(A)
81200-05	1/2" x 5'	1/2" x 1/2"	(A)
81200-06	1/2" x 6'	1/2" x 1/2"	(A)
81200-08	1/2" x 8'	1/2" x 1/2"	(A)
81200-12	1/2" x 12'	1/2" x 1/2"	(A)
81200-15	1/2" x 15'	1/2" x 1/2"	(A)
81200-20	1/2" x 20'	1/2" x 1/2"	(A)
81200-25	1/2" x 25'	1/2" x 1/2"	(A)
81200-30	1/2" x 30'	1/2" x 1/2"	(A)
81200-35	1/2" x 35'	1/2" x 1/2"	(A)
81200-40	1/2" x 40'	1/2" x 1/2"	(A)
81200-45	1/2" x 45'	1/2" x 1/2"	(A)
81200-50	1/2" x 50'	1/2" x 1/2"	(A)
81200-75	1/2" x 75'	1/2" x 1/2"	(A)
81200-100	1/2" x 100'	1/2" x 1/2"	(A)

(A) NPTM Rigid fitting x NPTM Swivel fitting

MEDIUM PRESSURE OIL HOSE 3/4" & 1" ID

For use with High Volume Ratio Pumps.

An excellent general purpose hose used for oil, hydraulic fluid, transmission fluid and antifreeze. Hose is constructed with a neoprene tube, high tensile steel wire braid and oil and weather resistant synthetic rubber. Hose is rated to a maximum working pressure of 1,250 PSI and a minimum burst of 5,000 PSI and has a temperature range of -40° F to +250° F. The hose is SAE/USCG marine listed and exceeds SAE 100R1 specifications. It is very flexible with a minimum bend radius of 4.3" inches, OD is 1.01". Hose may be used for suction or discharge.

P/N	HOSE SIZE	FITTINGS	NOTE
81250-02	3/4" x 2'	3/4" x 3/4"	(A)
81250-04	3/4" x 4'	3/4" x 3/4"	(A)
81250-06	3/4" x 6'	3/4" x 3/4"	(A)
81250-12	3/4" x 12'	3/4" x 3/4"	(A)
81250-20	3/4" x 20'	3/4" x 3/4"	(A)
81250-25	3/4" x 25'	3/4" x 3/4"	(A)
81250-30	3/4" x 30'	3/4" x 3/4"	(A)
81250-40	3/4" x 40'	3/4" x 3/4"	(A)
81250-50	3/4" x 50'	3/4" x 3/4"	(A)
81260-02	1" x 2'	1" x 1"	(A)
81260-04	1" x 4'	1" x 1"	(A)
81260-06	1" x 6'	1" x 1"	(A)
81260-12	1" x 12'	1" x 1"	(A)
81260-20	1" x 20'	1" x 1"	(A)
81260-25	1" x 25'	1" x 1"	(A)
81260-30	1" x 30'	1" x 1"	(A)
81260-40	1" x 40'	1" x 1"	(A)
81260-50	1" x 50'	1" x 1"	(A)

(A) NPTM Rigid fitting x NPTM Swivel fitting

GREASE HOSE & FUEL HOSE

These hoses are suitable for use with Hydraulic Fluid and Grease. Hoses are typically supplied with a rigid fitting on one side and a swivel fitting on the other side.

HIGH PRESSURE HOSE

For use with 60:1 Grease Pumps.

High pressure hose used for grease and hydraulic fluid transfer. Hose is constructed with a neoprene tube, two high tensile strength wire braids and MSHA approved oil and weather resistant synthetic rubber cover, (3/8" hose has a polyester tube and neoprene cover). Maximum working pressure for the 1/4" ID hose is 5,000 PSI with a minimum burst pressure of 20,000 PSI, while the 3/8" ID hose has a maximum working pressure of 4,000 PSI and a minimum bursting pressure of 16,000 PSI. High pressure hoses are flexible, with a minimum bend radius of 2.0" and 6.0" respectively. Hoses have a working temperature of -40° F to +212° F and are SAE/USCG marine listed.

P/N	HOSE SIZE	FITTINGS	NOTE
81300-02	1/4" x 2'	1/4" x 1/4"	(A)
81300-04	1/4" x 4'	1/4" x 1/4"	(A)
81300-05	1/4" x 5'	1/4" x 1/4"	(A)
81300-06	1/4" x 6'	1/4" x 1/4"	(A)
81300-08	1/4" x 8'	1/4" x 1/4"	(A)
81300-12	1/4" x 12'	1/4" x 1/4"	(A)
81300-15	1/4" x 15'	1/4" x 1/4"	(A)
81300-20	1/4" x 20'	1/4" x 1/4"	(A)
81300-25	1/4" x 25'	1/4" x 1/4"	(A)
81300-30	1/4" x 30'	1/4" x 1/4"	(A)
81300-40	1/4" x 40'	1/4" x 1/4"	(A)
81300-50	1/4" x 50'	1/4" x 1/4"	(A)
81301-25	1/4" x 25'	1/4" x 9/16"	(B)
81301-30	1/4" x 30'	1/4" x 9/16"	(B)
81301-40	1/4" x 40'	1/4" x 9/16"	(B)
81301-50	1/4" x 50'	1/4" x 9/16"	(B)
81301-60	1/4" x 60'	1/4" x 9/16"	(B)
81315-02	3/8" x 2'	3/8" x 3/8"	(A)
81315-04	3/8" x 4'	3/8" x 3/8"	(A)
81315-06	3/8" x 6'	3/8" x 3/8"	(A)
81315-12	3/8" x 12'	3/8" x 3/8"	(A)
81315-20	3/8" x 20'	3/8" x 3/8"	(A)
81315-25	3/8" x 25'	3/8" x 3/8"	(A)
81315-30	3/8" x 30'	3/8" x 3/8"	(A)
81315-40	3/8" x 40'	3/8" x 3/8"	(A)
81315-50	3/8" x 50'	3/8" x 3/8"	(A)
81316-25	3/8" x 25'	3/8" x 9/16"	(B)
81316-30	3/8" x 30'	3/8" x 9/16"	(B)
81316-40	3/8" x 40'	3/8" x 9/16"	(B)
81316-50	3/8" x 50'	3/8" x 9/16"	(B)
81317-06	1/2" x 6'	1/2"	(C)
81317-12	1/2" x 12'	1/2"	(C)
81317-20	1/2" x 20'	1/2"	(C)
81317-50	1/2" x 50'	1/2"	(C)
81318-06	3/4" x 6'	3/4"	(C)
81318-12	3/4" x 12'	3/4"	(C)
81318-20	3/4" x 20'	3/4"	(C)

- (A) NPTM Rigid fitting x NPTM Swivel fitting
- (B) NPTM Rigid fitting x 18 JICV fitting
- (C) NPTM Rigid fitting both ends, 10,000 PSI Working Pressure

Please contact Liquidynamics if you require a special hose type, length or fittings

GROUNDING FUEL HOSE

For use with Electric Fuel Pumps and U.L. Approved D.D. Pumps.

Single wire braid construction provides the flexibility of a softwall and the durability of a hardwall and is resistant to crushing, cuts, abrasions, sun and weather. This hose is compatible with leaded and unleaded gasoline, gasohol and diesel fuel. Tubing is black nitrile with black nitrile / PVC cover and has a single wire braid with solid brass couplings for positive grounding. Temperature range is -40° F to +180° F and a working pressure of 150 PSI.

P/N	HOSE SIZE	FITTINGS	NOTE
82400-06	3/4" x 6'	3/4" x 3/4"	(A)
82400-10A	3/4" x 10'	3/4" x 3/4"	(D)
82400-12	3/4" x 12'	3/4" x 3/4"	(A)
82400-12A	3/4" x 12'	3/4" x 3/4"	(D)
82400-20A	3/4" x 20'	3/4" x 3/4"	(D)
82400-25	3/4" x 25'	3/4" x 3/4"	(A)
82400-30	3/4" x 30'	3/4" x 3/4"	(A)
82400-35	3/4" x 35'	3/4" x 3/4"	(A)
82400-40	3/4" x 40'	3/4" x 3/4"	(A)
82400-50	3/4" x 50'	3/4" x 3/4"	(A)
82410-06	1" x 6'	1" x 1"	(A)
82410-10	1" x 10'	1" x 1"	(A)
82410-10A	1" x 10'	1" x 1"	(D)
82410-12A	1" x 12'	1" x 1"	(D)
82410-25	1" x 25'	1" x 1"	(A)
82410-25A	1" x 25'	1" x 1"	(D)
82410-30	1" x 30'	1" x 1"	(A)
82410-35	1" x 35'	1" x 1"	(A)
82410-40	1" x 40'	1" x 1"	(A)
82410-50	1" x 50'	1" x 1"	(A)

- (A) NPTM Rigid fitting x NPTM Swivel fitting
- (D) NPTM Rigid fitting both ends

NON GROUNDED FUEL HOSE

For use with Gravity or Hand Operated Equipment.

A quality hose designed for gravity flow applications for use in agricultural and construction sites. Hose has a working pressure of 75 PSI with a 2 spiral polyester yarn construction and Nitrile / PVC cover.

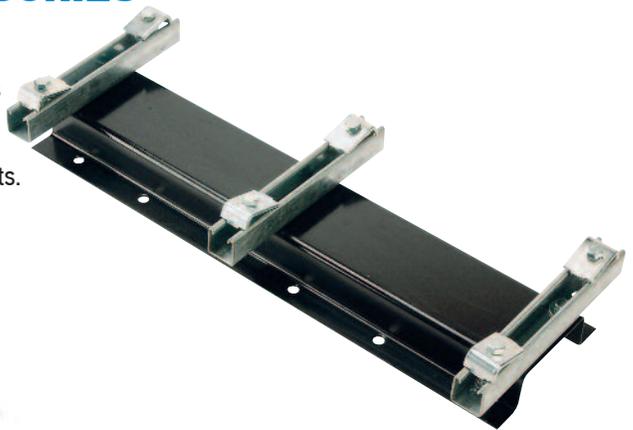
P/N	HOSE SIZE	FITTINGS	NOTE
82450-08	3/4" x 8'	3/4"	(D)
82450-10	3/4" x 10'	3/4"	(D)
82450-12	3/4" x 12'	3/4"	(D)
82450-15	3/4" x 15'	3/4"	(D)
82450-20	3/4" x 20'	3/4"	(D)
82460-08	1" x 8'	1"	(D)
82460-10	1" x 10'	1"	(D)
82460-12	1" x 12'	1"	(D)
82460-15	1" x 15'	1"	(D)
82460-20	1" x 20'	1"	(D)

- (D) NPTM Rigid fitting both ends

REEL ACCESSORIES

Hose Reel Mounting Channel Kit

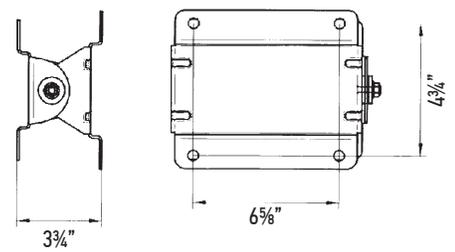
Reel mounting kits secure the 43002, 43003 and 44002 reels to "I" beams without having to drill any holes. Will fit "I" beams with flanges up to 7" wide. Kits are available for mounting 1 to 3 reels. For reel banks over 3 reels, use multiple channels, i.e. for 6 reel bank, use two 950043 reel kits.



- P/N **950041** 1 Reel Mounting Kit
- P/N **950042** 2 Reel Mounting Kit
- P/N **950043** 3 Reel Mounting Kit

Swivel Mount Kit

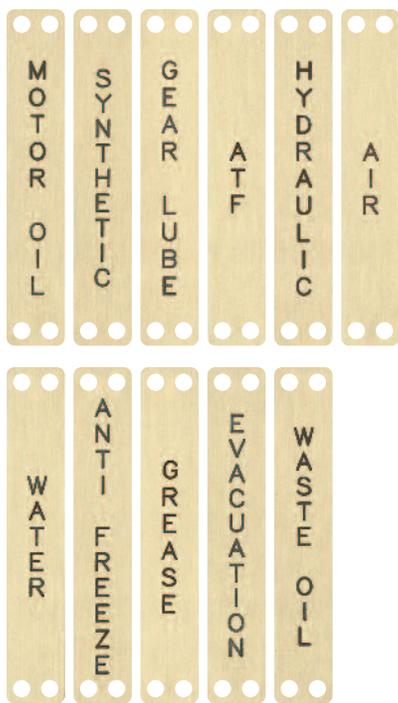
P/N **950091**
Swivel mount bracket adapts rigid mount open and enclosed reels to swivel mount, for P/N 43002, 43003 and 44002 series reels.



Product Service Labels

Product service labels (3/4" x 4 1/4") are used to identify type of product being dispensed from a reel, control handle or meter. Labels are engraved brass for durability and provided with mounting hardware for the specific product label listed.

- P/N **902010** Motor Oil
- P/N **902011** Synthetic Oil
- P/N **902012** Gear Lube
- P/N **902013** ATF
- P/N **902014** Hydraulic Oil
- P/N **902015** Air
- P/N **902016** Water
- P/N **902017** Antifreeze
- P/N **902018** Grease
- P/N **902019** Evacuation
- P/N **902020** Waste Oil



Note: Custom labels are available upon request. Please call for availability.

P/N **42015**

Wall mounted drip tray. Used to retain control handle and catch the occasional drip. Catch tray is easily removed for cleaning. 6" wide x 6 1/2" deep x 27" tall.



LUBE BAR

LUBE DISPENSING BAR AND CONSOLE

Economical and efficient, the lube dispensing bar and console mounts in the lube bay and allows product delivery from either side. Hoses gravity feed through floor via self-lubricating composite hose guides at top and bottom for smooth operation. Available in eight and ten outlet console models or seven and nine outlet bar models.

P/N **49007**

7 Station Lube Bar

- Locate Between Bays to Provide Service to Both Bay Areas
- Heavy Duty Steel Construction
- Powder Coated Finish for Durability
- Metal Floor Plate with Composite Bushing Helps Prevent Hose Wear
- Molded Composite Meter Saddles Accepts any Type Meter
- Dimensions: 8"W x 42"L x 32"H (Floor Opening: 5"W x 40"L)

P/N **49009**

9 Station Lube Bar

- Same Features as P/N 49007 except has 9 Stations
- Dimensions: 8"W x 52"L x 32"H (Floor Opening: 5"W x 50"L)



P/N **49011**

Computer Work Station

Heavy duty 14 gauge steel construction has shelving to hold a CPU, printer and supplies. Cabinet top is designed to protect computer display. Cabinet has a red powder coat finish for appearance and durability. Supplied with adjustable padded feet. 23" W x 28" D x 48" H



P/N **49008**

8 Station Lube Console

- Locate Between Bays to Provide Service to Both Bay Areas
- Heavy Duty Steel Construction
- Powder Coated Finish for Durability
- Polymer Hose Guides Reduce Hose Wear
- Eliminates Need for Expensive Hose Reels
- Slim Line Design Allows for Pairing with Work Station
- Dimensions: 23"W x 14"D x 43"H (Floor Opening: 20"W x 11"D)

P/N **49010**

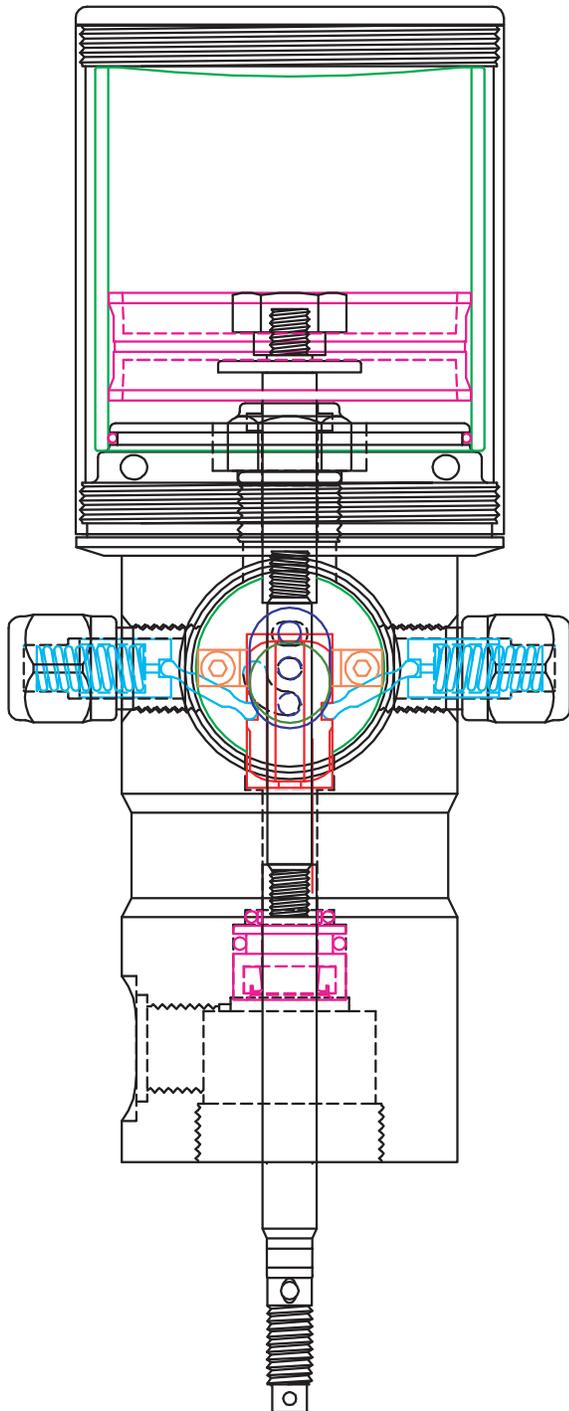
10 Station Lube Console

- Same Features as P/N 49008 except has 10 stations
- Dimensions: 30"W x 14"D x 45"H (Floor Opening: 26"W x 11"D)

P/N 49008 shown



GREASE PUMP SELECTION GUIDE



Pressure Ratio 10:1

P/N **11748**

Designed for bulk transfer of grease and high viscosity oils over short distances. Has a maximum discharge pressure of 1,450 PSI and a discharge rate of over 70 lb/min. Available cam-lock connections with stingers allow this pump to be used with metal and cardboard bulk grease containers.

Pressure Ratio 13:1

P/N **11848**

Also designed for bulk transfer of grease and high viscosity oils over short distances, it has a maximum discharge pressure of 1,885 PSI and a higher discharge rate of 100 lb/min. May be used with available cam-lock connections for use with metal and cardboard bulk grease containers.

Pressure Ratio 35:1

P/N **11595**

An excellent choice for grease applications where there is a requirement for medium discharge pressure of up to 4,200 PSI and discharge rates of up to 9 lb/min. These pumps are designed to fit 420 lb drums

Pressure Ratio 60:1

P/N **11148T, 11174T AND 11195T**

These pumps produce a maximum grease pressure of 7,200 PSI and are ideal for both fixed and mobile applications. Grease output volume is sufficient for most demanding applications requiring grease transfer for distances up to 200 ft.

Pressure Ratio 80:1

P/N **11348, 11374 AND 11395**

A great combination of grease pressure and volume in one pump. With an 80:1 ratio these pumps have the capability to produce 9,600 PSI, enough to free most any "stuck" grease fitting. These pumps also have a large output volume and may be plumbed directly to 3/4" or 1/2" plumbing, minimizing pressure losses. Pumps are powerful enough to push grease to 200 ft. or greater. These pumps may be ordered with "camlock" fittings to allow them to be used with 5,000 lb. grease totes.

AIR OPERATED GREASE PUMPS



Part Number	11148T	11174T	11195T	11348	11374	11395	11595	11748	11848
Pump Ratio	60:1	60:1	60:1	80:1	80:1	80:1	35:1	10:1	13:1
Delivery Rate (oz/min)	48	48	48	126	126	126	140	70 lb/min	100 lb/min
Working Pressure PSI	80-120	80-120	80-120	80-120	80-120	80-120	80-120	80-145	80-145
Air Inlet (NPTF)	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Grease Outlet (NPTF)	*1/4"	*1/4"	*1/4"	3/4"	3/4"	3/4"	3/4"	1"	1 1/2"
Air Consumption (cfm)	12	12	12	20	20	20	20	87	103
Noise (dB)	79	79	79	79	79	79	79	79	79
Drum Size (lb)	30/60	120	420	30/60	120	420	420	N/A	N/A
Dia., Suction Tube (in)	1.26	1.26	1.26	1.42	1.42	1.42	1.65	2.00	3.00
Length Suction Tube (in)	19.75	29.50	37.50	19.75	29.50	37.50	37.5	N/A	N/A
Shipping Weight (lb)	12	14	16	20	22	24	26	32	40

Note: For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator (filter), or minimally an air filter is advantageous. See page 11 for selection of air regulators, separators (filter) and dryers.

*Order with a "-02" suffix (eg; 11174T-02) to receive 3/8" discharge.

AIR OPERATED GREASE PUMP ACCESSORIES

Follower Plates:

The follower plate is indispensable when using heavy greases. The follower is pulled towards the bottom of the drum by the vacuum created by the pump operation and provides the following advantages:

- Keeps the grease clean and free of impurities.
- Compresses the grease which eliminates the formation of air pockets and possible cavitation of the pump.
- Insures complete emptying of the drum contents.
- Constructed of heavy duty materials with a double 'O' ring seal on the I.D. to prevent air entrainment.

P/N 12031T

Follower plate for use with P/N 11148T, 60:1 pumps and 5-6½ gal. pails, with I.D. between 10.6" and 11.8".

P/N 12037T

Follower plate for use with P/N 11174T, 60:1 pumps and 120 lb. drums, with I.D. between 13.2" and 14.2".

P/N 12037HV

Follower plate for use with P/N 11374, 80:1 high volume grease pump and 120 lb. drums with ID between 13.2" and 14.2".

P/N 12058T

Follower plate for use with P/N 11195T, 60:1 pumps and 420 lb. drums with I.D. between 21.3" and 22.8".



P/N 12059

Follower plate for use with P/N 11395, 80:1 high volume, high pressure grease pumps and 420 lb. drums with I.D. between 21.3" and 22.8".

P/N 12063

Follower plate for use with P/N 11595, 35:1 high volume grease pumps, 1:1, 3:1 and 5:1 oil pumps to fit 420 lb./55 gal. drums with I.D. between 21.3" and 22.8".

Grease Drum Covers:

The drum cover keeps dust and impurities from contaminating the grease. It also keeps the pump in a vertical position and at the proper height to prevent the pump from sucking up the "bag" used in many drums.

P/N 12132T

Drum cover for use with P/N 11148T pumps and 35/60 lb. grease containers. Will fit containers with O.D. between 10.2" and 12.2".

P/N 12138T

Drum cover for use with P/N 11174T pumps and 120 lb. drums. Will fit containers with O.D. between 13.4" and 15.2".

P/N 12138HV

Drum cover for use with P/N 11374 80:1 high volume, high pressure grease pump and 120 lb. drums with OD between 13.4" and 15.2".

P/N 12160T

Drum cover for use with P/N 11195T, 60:1 pumps and 420 lb. drums. Will fit containers with O.D. between 21.6" and 23.6".

P/N 12161

Drum cover for use with P/N 11395, 80:1 high volume, high pressure grease pumps and 420 lb. drums with O.D. between 21.6" and 23.6".



P/N 12163

Drum cover for use with P/N 11595, 35:1, high volume grease pumps, 1:1, 3:1 and 5:1 oil pumps to fit 420 lb./55 gal. drums with O.D. between 21.6" and 23.6".

P/N 12136

Closure plug for grease covers prevents water and dust entry when used outdoors. Plugs slot normally used to secure drum to cart.

GREASE CONTROL VALVES AND ACCESSORIES

Grease Control Valves

P/N 12072T
Grease control valve with rigid tube and 4 jaw coupler. Length of discharge tube including coupler is 6½". Inlet connection is 1/4" NPTF.



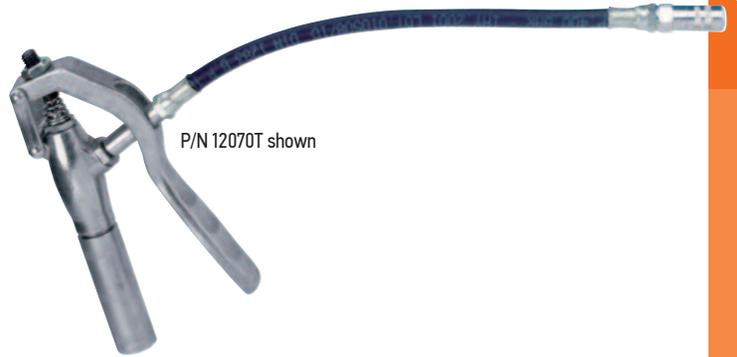
P/N 12072TS
Same as 12072T above, but includes P/N 12001T straight swivel.

P/N 12072TZ
Same as 12072T above, but includes P/N 12003T 'Z' swivel.

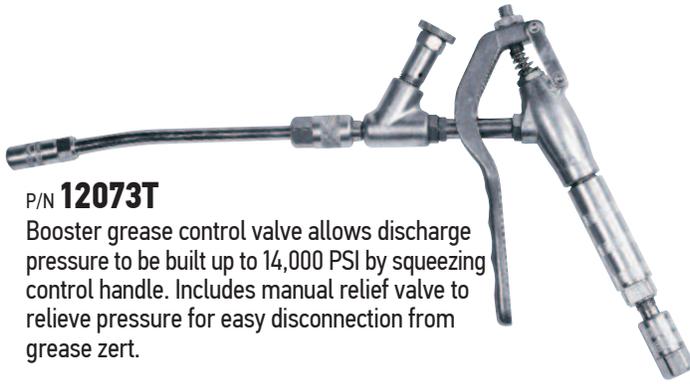
P/N 12070T
Grease control valve with 12" flex hose and 4 jaw coupler. Inlet connection is 1/4" NPTF.

P/N 12070TS
Same as 12070T above, but includes P/N 12001T straight swivel.

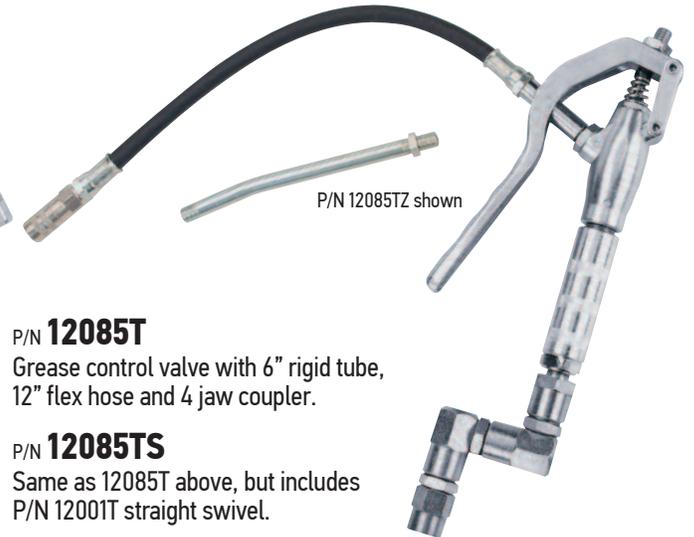
P/N 12070TZ
Same as 12070T above, but includes P/N 12003T 'Z' swivel.



P/N 12070T shown



P/N 12073T
Booster grease control valve allows discharge pressure to be built up to 14,000 PSI by squeezing control handle. Includes manual relief valve to relieve pressure for easy disconnection from grease zert.



P/N 12085TZ shown

High pressure grease hose to fit grease control valves P/N 12070T, 12072T, 12073T and 12085T. 23,000 PSI burst, heavy duty.



- P/N **12087** M10X1 threads, 12" long
- P/N **12087-20** M10X1 threads, 20" long
- P/N **12087-24** M10X1 threads, 24" long
- P/N **12087-36** M10X1 threads, 36" long
- P/N **12087-40** M10X1 threads, 40" long

P/N 12085T
Grease control valve with 6" rigid tube, 12" flex hose and 4 jaw coupler.

P/N 12085TS
Same as 12085T above, but includes P/N 12001T straight swivel.

P/N 12085TZ
Same as 12085T above, but includes P/N 12003T 'Z' swivel.

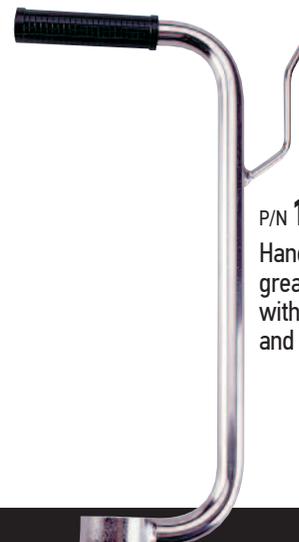
P/N 12001T
Straight swivel with 1/4" NPTM x 1/4" NPTF fittings. This swivel allows free rotation of the control handle even when system is under pressure.



P/N 12071T
Heavy duty 4 jaw grease coupler to fit control valves P/N 12070T, 12072T and 12085T.



P/N 12003T
'Z' swivel with 1/4" NPT male/female fittings. Allows free rotation of grease control handle in all directions, even when system is under pressure.



P/N 12112T
Handle for portable grease kits. For use with P/N 11148T pumps and 12132T covers.

STATIONARY AND MOBILE GREASE PUMP KITS

35 lb. Portable Grease System

P/N 13027T-S1

Portable Grease Kit for 35-60 lb. (5-6½ gal.) Pails. Kit comes complete with a unique carrying handle which allows easy movement of the grease pail.

Includes:

- P/N 11148T 60:1 Grease Pump
- P/N 12132T Drum Cover
- P/N 12031T Follower Plate
- P/N 12072T Control Valve w/Rigid Tube and Four Jaw Coupler
- P/N 12003T "Z" Swivel
- P/N 81300-06 1/4" X 6 ft. High Pressure Hose
- P/N 12112T Grease Kit Carrying Handle



P/N 13027T-S3

Recommended for use with thick, tacky and heavy greases, includes 3/8" x 6' hose and air filter/regulator, otherwise same as 13027T-S1 above.

P/N 13027T-S3F

Same as 13027T-S3 except with flex spout control valve P/N 12070TZ.



P/N 13027T-S3 shown

120 lb. Stationary Grease System 60:1

P/N 13062T-S1

Includes:

- P/N 11174T Pump
- P/N 12138T Drum Cover
- P/N 12037T Follower Plate
- P/N 81300-06 1/4" x 6' High Pressure Hose
- P/N 81100-06 3/8" x 6' Air Hose
- P/N 540201-G Filter Regulator w/gauge

P/N 13063T-S1

Same as 13062T-S1 except has 12' grease hose P/N 81300-12 and P/N 12072TZ grease control handle with 'Z' swivel.



120 lb. Mobile Grease System

P/N 13051T-S1

Portable Grease Kit for 120 lb. (16 gal.) Drums. Kit includes sturdy two wheel cart which allows the operator to easily maneuver over obstructions such as hoses, floor cracks and tools.

Includes:

- P/N 11174T 60:1 Grease Pump
- P/N 12138T Drum Cover
- P/N 12037T Follower Plate
- P/N 12072T Control Valve w/Rigid Tube and Four Jaw Coupler
- P/N 12003T "Z" Swivel
- P/N 81300-12 1/4" x 12 ft. High Pressure Hose
- P/N 51004C Two Wheel Cart, secures drum to cart at top and bottom of drum



P/N 13051T-S4

Ideal for use with thick, tacky and heavy greases, includes 3/8" x 12' hose and air filter/regulator, otherwise same as P/N 13051T-S1 above.

P/N 13051T-S4F

Same as 13051T-S4 except with flex spout control valve P/N 12070TZ.



P/N 13051T-S4 shown

420 lb. Stationary Grease System 60:1

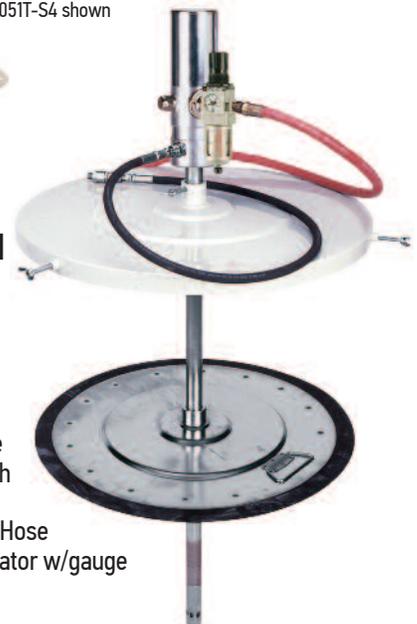
P/N 13071T-S1

Includes:

- P/N 11195T Pump
- P/N 12160T Drum Cover
- P/N 12058T Follower Plate
- P/N 81300-06 1/4" x 6' High Pressure Hose
- P/N 81100-06 3/8" x 6' Air Hose
- P/N 540201-G Filter Regulator w/gauge

P/N 13072T-S1

Same as 13071T-S1 except has 12' grease hose P/N 81300-12 and P/N 12072TZ grease control handle with 'Z' swivel.



MOBILE GREASE KITS

420 lb. Mobile Grease System with Heavy Duty Cart

P/N **13070-S1**

Portable Grease Kit for 420 lb. (55 gal.) Drums. Convenient kit allows efficient dispensing of grease for high volume applications. Heavy duty cart has large wheels and tow bar for easy maneuverability and space for addition of hose reel if desired. Retainer bracket to hold pump during drum change is standard. **FOB Wichita, KS.**

Items included in kit are as follows:

- P/N 11195T 60:1 Grease Pump
- P/N 12160T Drum Cover
- P/N 12058T Follower Plate
- P/N 12070T Control Valve with Flex Hose
- P/N 12003T "Z" Swivel
- P/N 81300-12 12 ft. High Pressure Hose
- P/N 51009C Heavy Duty 4 Wheel Cart
- P/N 540201-G Air Filter/Regulator w/gauge

Note: See selection guide if variations from base system are desired.



420 lb. Mobile Grease Kit with Heavy Duty Cart and Reel

P/N **13070-S3**

Mobile Grease Kit for 420 lb. drums with heavy duty cart and 50' reel. System is ideal for use in shops with rough and uneven floors. **FOB Wichita, KS.**

Following items are included:

- P/N 11195T 60:1 Grease Pump
- P/N 12160T Drum Cover
- P/N 12058T Follower Plate
- P/N 12070T Control Valve with Flex Hose
- P/N 12003T "Z" Swivel
- P/N 43102-50G 1/4" x 50' Grease Reel
- P/N 540201-G Air Filter/Regulator w/gauge
- P/N 81300-06 1/4" x 6' Grease Connection Hose
- P/N 51009C Heavy Duty 4 Wheel Cart

Note: See selection guide if variations from base system are desired.



GREASE SYSTEM SELECTION GUIDE

This grease system selection guide allows you to customize your Grease Pump System and still take advantage of our kit pricing. System pricing applies when a minimum of four additional items are selected in addition to the base systems G35, G120 or G420.*

SYSTEM IDENTIFIER

G35	35 lb. Grease System, 60:1 Pump
G120	120 lb. Grease System, 60:1 Pump
G420	420 lb. Grease System, 60:1 Pump

CONTROL HANDLE SELECTION

X	Not Required
R	Control Handle w/Rigid Spout
F	Control Handle w/ Flex Spout
B	Control Handle w/ Rigid and Flex Spouts

SWIVEL SELECTION

X	Not Required
S	Straight Swivel
Z	Z Swivel

GREASE HOSE/REEL SELECTION

XX	Not Required
H6	1/4" x 6' Hose
H12	1/4" x 12' Hose
H20	1/4" x 20' Hose
L6	3/8" x 6' Hose
L12	3/8" x 12' Hose
L20	3/8" x 20' Hose
R50	1/4" x 50' Grease Reel
S50	3/8" x 50' Grease Reel

AIR HOSE SELECTION

XX	Not Required
A6	3/8" x 6' Hose
A10	3/8" x 10' Hose
A15	3/8" x 15' Hose

CART/DOLLY SELECTION

XX	Not Required
D1	Carrying Handle
D2	Drum Dolly (G35 Only)
D3	Drum Dolly (G120 Only)
D4	Drum Dolly (G420 Only)
D5	2 Wheel Cart (G35 and G120)
D6	4 Wheel Cart (G35 and G120)
D8	Heavy Duty 4 Wheel Cart (G420 Only), FOB Wichita, KS

AIR FILTER/REGULATOR SELECTION

XXX	Not Required
FR1	FRL Combo, 150 PSI
FR2	FR Combo, 150 PSI
FR3	FRL Combo, 250 PSI
FR4	FR Combo, 250 PSI

G120

F

Z

L12

XX

D3

FR2

P/N G120FZL12XXD3FR2 shown



Example of customized grease system for 120 lb. drums includes a flex control handle with 'Z' swivel, a 3/8" x 12' hose, no air hose, a 120 lb. drum dolly and air filter/regulator w/gauge (150 PSI input capability).

*Note: For pricing see back section of price booklet.

GREASE METER CONTROL VALVE

Greaster

The compact and lightweight design of this metered control handle allows it to be used in place of normal, non-metered, grease control handles. As with any grease control handle it may be fitted with your choice of flex or rigid discharge spout and either a straight or "Z" swivel at the inlet.

The Greaster incorporates both a resettable batch total displayed in ounces, and a non-resettable cumulative total displayed in pounds.

Why use a grease meter? Under normal operating conditions the amount of grease dispensed is highly variable due to various factors such as pump size, efficiency, plumbing diameter and length, type of grease, ambient temperature and line restrictions to name just a few. With the Greaster Meter you can now be assured of the amount of grease that is actually dispensed, regardless of the system operating conditions.



P/N 100451 shown

Body: Machined aluminum body, handle and gear cover. Steel control lever handle contains receptacle for two user replaceable 1.5V standard AA batteries.

Inlet: 1/4" NPTF

Outlet: 1/8" NPTF

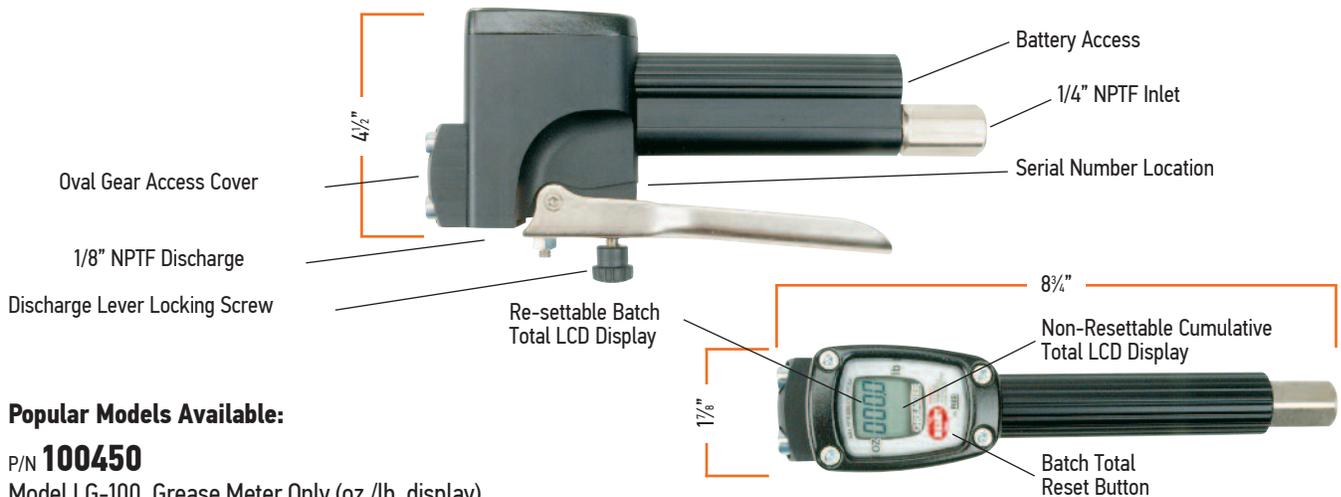
Meter: Oval gear sensing elements, easily accessed via front cover held in place by 4 ea. 3 mm allen screws.

Electronics: Microprocessor controlled with LCD display. Batch total (resettable), cumulative total (non-resettable).

Control Lever Lock: Allows discharge lever to be safely secured to prevent accidental opening of the discharge valve.

Performance Specifications:

Operating Pressure (max.)	7,250 PSI
Burst Pressure (min.)	14,500 PSI
Metering Accuracy	+/- 3%
Display	Batch Total (oz.), 4 digits, 0.31" digit height Cumulative Total (lb.), 4 digits, 0.16" digit height
Battery Type/Life	2 ea. AA / 10,000 hrs.
Weight	2.16 lb. (batteries included)
Operating Temperature Range	30° F to 140° F



Popular Models Available:

P/N **100450**
Model LG-100, Grease Meter Only (oz./lb. display)

P/N **100451**
Model LG-100-ZR, Grease Meter w/ 'Z' swivel and rigid spout

P/N **100452**
Model LG-100-ZF, Grease Meter w/ 'Z' swivel and flex spout

P/N **100454**
Model LG-100-F, Grease Meter w/ straight swivel and flex spout

Note: Other models available upon request

P/N 100460

Low flow capability In-Line Meter for grease applications at working pressures up to 7,800 PSI. A re-settable LCD display indicates oz. (weight) of grease dispensed and a non re-settable cumulative total in lb. Metering accuracy is +/- 3%, power is supplied by two 1N alkaline batteries, 1/8" NPTF threads.



GREASE CAMLOCK PUMPS



P/N **11149**

60:1 Grease Pump with 19" suction tube and 3" camlock adapter mounting to fit bottom mount of Bulk Grease Tote Tanks. Uses P/N 11148T pump with output of approximately 48 oz. per minute.

P/N **11196**

60:1 Grease Pump with 37" suction tube and 3" camlock adapter mounting to fit side pocket mount of Bulk Grease Tote Tanks. Uses P/N 11195T grease pump with output of approximately 48 oz. per minute.



P/N **11349**

80:1 Grease Pump with 19" suction tube and 3" camlock adapter mounting to fit bottom mount of Bulk Grease Tote Tanks. Uses P/N 11348 grease pump with output of approximately 126 oz. per minute.



P/N **11396**

80:1 Grease Pump with 37" suction tube and 3" camlock adapter mounting to fit side pocket mount of Bulk Grease Tote Tanks. Uses P/N 11395 grease pump with output of approximately 126 oz. per minute.



P/N **900298**

3" Female Camlock Coupler with 3" NPTM threads used in conjunction with Bulk Grease Tote Camlock Pumps. Coupler mounts to Grease Tote Tank at side pocket or at bottom, depending on pump to be used.



P/N **900298-A**

3" Female Camlock Coupler with 2" NPTM threads, otherwise same as P/N 900298.

These stingers are designed to be used with high volume grease transfer pumps P/N 11748 and 11848 for use with large Metal or Cardboard (collapsible) Grease Totes. Stingers will thread directly into the inlet of the High Volume Grease Transfer Pumps while the 3" Camlock connects to the bottom discharge of the grease tote.

P/N **900298-A-EZ**

Has a 2" male fitting and 11" stinger for use with P/N 11748 (10:1 ratio, 70 lb/min) grease pump and collapsible cardboard grease totes.

P/N **900298M-A-EZ**

Has 2" male fitting and 19" stinger for use with P/N 11748 (10:1 ratio, 70 lb/min) grease pumps and metal grease totes.

P/N **900298-EZ**

Has 3" male fitting and 11" stinger for use with P/N 11848 (13:1 ratio, 100 lb/min) grease pump and collapsible cardboard grease totes.

P/N **900298M-EZ**

Has 3" male fitting and 19" stinger for use with P/N 11848 (13:1 ratio, 100 lb/min) grease pumps and metal grease totes.



HAND OPERATED GREASE PUMPS



MODEL **MA-11** P/N 10011

Bulk Fill Hand Operated Grease Pump Kit, fits 5 to 6½ gallon pails. Pump is used to refill grease guns, bearing packers and for bulk transfer of grease. Pump is not

intended for pressure applications. Kit includes pump, cover, follower plate, and grease gun bulk fill nozzle.

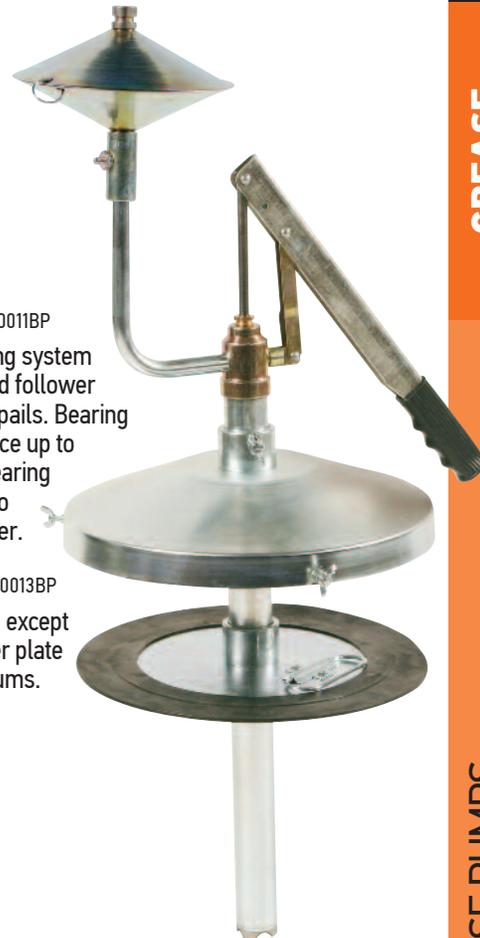
MODEL **MA-13** P/N 10013

Same as MA-11 above except pump, cover and follower are sized to fit 120 lb. drums.



MODEL **BP-11** P/N 10113

Bearing packer for portable or permanent application. Ideal for use with hand or air operated grease guns. Will accommodate bearings up to 6" diameter. Silver zinc plated for durability.



MODEL **MA-11BP** P/N 10011BP

Complete Bearing Packing system includes pump, cover and follower plate, fits 5 to 6½ gallon pails. Bearing Packer designed to service up to 6" diameter bearings. Bearing Packer mounts directly to pump via supplied adapter.

MODEL **MA-13BP** P/N 10013BP

Same as MA-11BP above except pump, cover and follower plate are sized to fit 120 lb. drums.



P/N **10050**

Heavy duty hand operated grease pump to fit 5 to 6½ gallon pails. Pump is intended for pressure applications and is supplied complete with cover, follower plate, 6 ft. hose, shut-off valve and 4 jaw coupler. Generates 6,000 PSI and 1 oz. per stroke.

HAND OPERATED GREASE GUNS

P/N 500102

Mini pistol grip grease gun for use with 3 oz. cartridges or bulk suction loading. Features dual port head which allows straight on use. Bright zinc plate finish and knurled barrel. Includes 6" rigid extension with 4 jaw coupler. Approximately 35 strokes per oz.



P/N 500101

Standard lever grease gun with bright zinc finish for use with 14 oz. grease cartridge. Supplied with 6½" rigid extension and 4 jaw coupler. May be fitted with bulk loader nipple, P/N 500123, sold separately. Approximately 18 strokes per oz.

P/N 500101F

Same as P/N 500101 except provided with 12" flex extension in place of rigid extension.

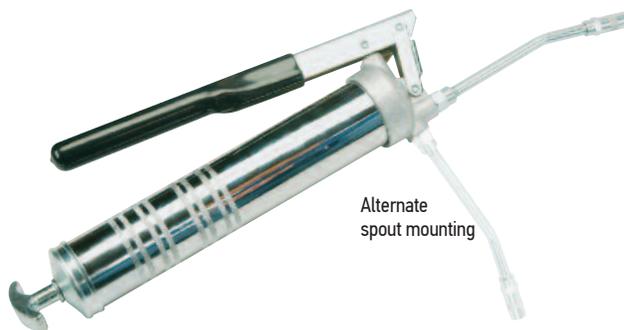


P/N 500100

Handgrip grease gun with 3 way loading capability, 14 oz. cartridges, filler pump or bulk fill. Features an air vent and dual port head, which allows straight on use. Bright zinc plate finish with knurled barrel. Includes 4" rigid extension with 4 jaw coupler. Approximately 35 strokes per oz.

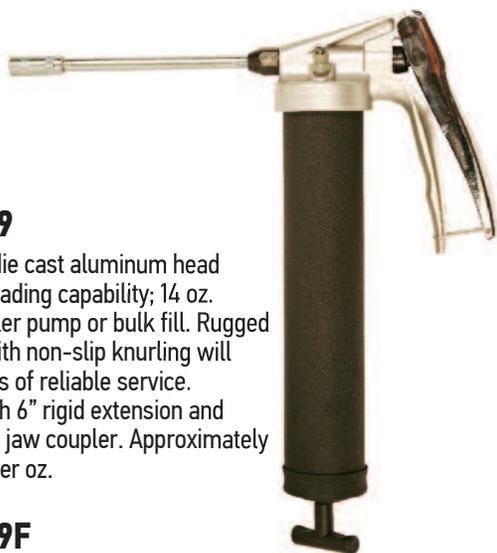
P/N 500100F

Same as P/N 500100 except provided with 12" flex extension in place of rigid extension.



P/N 500129

Heavy duty die cast aluminum head has 3 way loading capability; 14 oz. cartridge, filler pump or bulk fill. Rugged steel tube with non-slip knurling will provide years of reliable service. Provided with 6" rigid extension and heavy duty 4 jaw coupler. Approximately 24 strokes per oz.



P/N 500129F

Same as P/N 500129 except provided with 12" flex extension in place of rigid extension.

P/N 500128

Premium high performance lever grease gun with heavy steel barrel, cast iron head and bright zinc finish. Has short stroke capability and will produce better than 10,000 PSI using extra leverage steel handle. 6" rigid extension with 4 jaw coupler may be attached in one of two directions for maximum flexibility. Fill 3 ways, bulk fill pump using available bulk loader nipple (P/N 500123 sold separately), 14 oz. cartridge or bulk hand fill. Approximately 15 strokes per oz.

P/N 500128F

Same as P/N 500128 except provided with 12" flex extension in place of rigid extension.

HAND, BATTERY AND AIR OPERATED GREASE GUNS



P/N **500103**

Premium high performance lever grease gun with heavy steel barrel and head. Will produce better than 10,000 PSI using extra leverage steel handle. Scales on handle allows “metering” of grease using “short” stroke capability. Fill 3 ways using filler nipple (P/N 500123 sold separately), 14 oz. cartridge or bulk fill. Includes 7” rigid extension, heavy-duty 4-jaw coupler and ergonomic cushioned handle grip. Approximately 15 strokes per oz.

P/N **500103F**

Same as P/N 500103 except provided with 12” flex extension in place of rigid extension.



P/N **500141R**

Unique lever grease gun has seals designed for use with oils and light (flowable) greases without leakage. Hydraulic coupler is fitted with a ball check to prevent leakage. Will generate 5,800 PSI pressure with oil or grease, may be bulk loaded (using P/N 500123 sold separately). Supplied with 7” rigid extension and 4 jaw coupler. Approximately 21 strokes per oz.

NOTE: Does not accept standard 14 oz. grease cartridges.

P/N **500141F**

Lever grease gun same as P/N 500141R but with 12” flex spout.



P/N **500119**

Oil suction gun holds approximately 16 oz. of fluid. Comes with 10” flexible suction tube and bright zinc plated finish. Ideal for emptying small reservoirs.



P/N **500177**

18 VDC Battery Operated Grease Gun

This Liquidynamics Battery Operated Grease Gun combines versatility, reliability and increased power to provide the user with excellent greasing capability. The powerful 18 VDC motor delivers a constant flow of grease at up to 6,000 PSI at a flow rate of 2.4 oz./min. providing reliable and effective lubrication. Complete with carrying case, two 18 V NiCad batteries, battery charger and 42” flex tube with coupler. Fill three ways, using filler nipple (P/N 500123 sold separately), 14 oz. cartridge or bulk fill.

NOTE: A unique feature of this grease gun is a pressure release valve that allows easy removal of the coupler after a greasing operation – *No more Stuck-On couplers!*

HAND GREASE GUN ACCESSORIES

P/N **500131**

Grease gun holder may be mounted to most any surface. Will hold any grease gun or suction gun with a barrel diameter of approximately 2 1/4". Can be used in conjunction with BP-11 bearing packer for bench top bearing packer system.



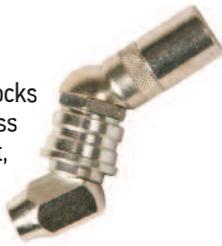
P/N **500107**

4 jaw hydraulic grease coupler w/o ball check.



P/N **500108**

4 jaw hydraulic grease coupler w/ball check.



P/N **500172**

Swivel grease coupler with ball check locks at any 45° position, providing easy access to most grease couplers, 1/8" NPTF inlet, zinc plated.



P/N **500126**

Extra Heavy duty grease coupler with three jaw attachment and ball check.

P/N **500132**

Needle nose adapter for hard to reach applications, 1/8" NPTF.



P/N **500139**

Seal off adapter w/rubber tip.



P/N **500133**

Injector needle lubricator for sealed bearings.



P/N **500145**

12" Whip hose for use w/hand grease guns, 1/8" NPTM.

P/N **500146**

18" Whip hose for use w/hand grease guns, 1/8" NPTM.

P/N **500137**

24" Whip hose for use w/hand grease guns, 1/8" NPTM.

P/N **500138**

36" Whip hose for use w/hand grease guns, 1/8" NPTM.



P/N **500130**

6" Curved steel pipe for hand grease gun use, 1/8" NPTM.



P/N **500123**

Loader nipple for use with filler valve P/N 900267, MA-11 and MA-13. Thread is 1/8" NPTM.



P/N **900267**

Filler pump adapter for use with P/N 500123 loader nipple. Has 3/8" NPTF threads.



GREASE FITTINGS

Part No.	Description	Pkg. Qty. / Type	Bulk Part No.	Pkg. Qty. / Type
500134	1/4" NPT (PTF extra short), Straight	1 pc. / bulk	500134-100	100 pcs. / bulk
500109	1/8" NPT (PTF extra short), Straight	1 pc. / bulk	500109-100	100 pcs. / bulk
500110	1/8" NPT (PTF extra short), 45°	1 pc. / bulk	500110-100	100 pcs. / bulk
500111	1/8" NPT (PTF extra short), 90°	1 pc. / bulk	500111-100	100 pcs. / bulk
500113	1/4" - 28 (SAE LT taper), Straight	1 pc. / bulk	500113-100	100 pcs. / bulk
500114	1/4" - 28 (SAE LT taper), 45°	1 pc. / bulk	500114-100	100 pcs. / bulk
500115	1/4" - 28 (SAE LT taper), 90°	1 pc. / bulk	500115-100	100 pcs. / bulk
500135	5/16" Drive Type, straight w/ball	1 pc. / bulk	500135-100	100 pcs. / bulk
500154	5/16" Drive Type, straight w/o ball	1 pc. / bulk	500154-100	100 pcs. / bulk
500155	1/4" Drive Type, straight, w/ball	1 pc. / bulk	500155-100	100 pcs. / bulk
500156	1/4" Drive Type, straight, w/o ball	1 pc. / bulk	500156-100	100 pcs. / bulk
500163	6 mm x 1.0 straight	1 pc. / bulk	500163-100	100 pcs. / bulk
500164	8 mm x 1.0 straight	1 pc. / bulk	500164-100	100 pcs. / bulk
500165	10 mm x 1.0 straight	1 pc. / bulk	500165-100	100 pcs. / bulk
500166	6 mm x 1.0, 45°	1 pc. / bulk	500166-100	100 pcs. / bulk
500167	6 mm x 1.0, 90°	1 pc. / bulk	500167-100	100 pcs. / bulk
500168	8 mm x 1.0, 90°	1 pc. / bulk	500168-100	100 pcs. / bulk
500157	1/8" NPT Button Head, ball type	1 pc. / bulk		
500158	1/4" NPT Button Head, ball type	1 pc. / bulk		
500159	3/8" NPT Button Head, ball type	1 pc. / bulk		
500160	1/2" NPT Giant Button Head, plunger type	1 pc. / bulk		
500161	Button Head coupler, 16 mm	1 pc. / bulk		
500162	Giant Button Head Coupler, 22 mm	1 pc. / bulk		



90° Fitting



Straight Fitting



45° Fitting



Button Head Coupler



Button Head Fitting,
Plunger Type



Button Head Fitting,
Ball Type

BULK TRANSFER PUMPS

The "Pump Viscosity Chart" shown below provides a general guideline for the "Single Speed" as well as "Three Speed" transfer pump capability. It also shows the viscosity pumping range for each fixed gear pump along with 1st, 2nd and 3rd gear capability for the "Three Speed" pump.

PUMP VISCOSITY CHART			
Fixed Gear Pumps	3 Speed pump setting	Typical operating range	** Pump should be empty to start
2 HP 40 GPM	3rd Gear 40 GPM	Up to 230 Centipoise	180 Centipoise and above
2 HP 20 GPM	2nd Gear 20 GPM	Up to 1600 Centipoise	1500 Centipoise and above
2 HP 10 GPM	1st Gear 10 GPM	Up to 4900 Centipoise	3500 Centipoise and above
NOT RECOMMENDED		5000 Centipoise and above	
** "Pump should be empty to start" column indicates the viscosity at which pump needs to be empty in order to "start" when pumping the higher viscosities noted in the "Typical operating range" column.			

NOTE: Use of the optional "PowerMaster" in conjunction with a single speed or Three Speed Pump greatly extends the viscosity pumping range by gradually slowing down the pump rate to maintain amp draw below circuit breaker "trip" amperage.

LUBRICANT VISCOSITY TABLE												
Temperature		100 F	90 F	80 F	70 F	60 F	50 F	40 F	30 F	20 F	10 F	0 F
FLUID	ISO No.	38 C	32 C	27 C	21 C	15 C	10 C	4 C	-1 C	-7 C	-12 C	-18 C
A.T.F		35	44	56	72	95	127	176	250	366	544	872
5w-20		46	59	76	101	136	188	268	394	598	944	1557
10w	32	37	49	64	87	122	176	263	407	659	1120	2012
5w-30		61	78	101	134	182	252	359	528	801	1262	2070
Hydraulic	46	46	61	82	114	163	241	370	592	995	1763	3319
10w-30		70	91	121	165	230	331	491	755	1205	2010	3517
20w	68	68	92	127	181	266	405	640	1059	1843	3392	6651
30w	100	100	135	187	267	392	596	940	1547	2670	4854	9364
10w-40		97	126	168	228	317	454	669	1017	1605	2635	4523
15w-40		123	164	223	311	445	656	998	1575	2585	4437	7999
40w	150	128	178	253	370	562	887	1457	2510	4555	8765	18015
20w-50		164	222	308	440	645	976	1530	2494	4243	7575	14266
80W-90		143	198	282	412	622	975	1591	2717	4880	9275	18770
50w	220	226	321	470	709	1110	1807	3074	5491	10358	20769	44595
80W-140		263	359	502	720	1062	1615	2542	4152	7068	12596	23621
90w gear	320	331	479	713	1099	1757	2926	5099	9346	18121	37417	82894
140w gear	460	479	702	1060	1658	2693	4557	8077	15065	29745	62574	141305
Readings are in centipoise (formula used is centistoke X .9 = centipoise).												

Example of proper Chart usage

Example #1: If you would like to pump 15w-40 motor oil at a minimum temperature of 40° F, the maximum viscosity at this temperature is 998 cps, which is in the "green" zone of the chart (as determined from the lower chart). Next, look at the green line in the upper chart to determine that you can pump this oil at 10 GPM by using a fixed gear pump (4:1 ratio) or using 1st gear on a Three Speed Pump. An obvious advantage to the Three Speed Pump in this case is that you can utilize 2nd or 3rd gear to pump at 20 or 40 GPM when the viscosity falls into their pumping range.

Example#2: If you need to transfer oil at 40 GPM, the lower chart shows that you can pump any of the oils in the "orange" range of the chart. For instance, 10w-30 motor oil can be pumped at 40 GPM down to 60° F. With the use of a PowerMaster, the pump will continue to pump 10w-30 at gradually lower pumping rates as the temperature decreases (viscosity increases).

BULK TRANSFER PUMPS

Designed for the transfer of Motor Oil, Gear Oil, Transmission Fluid, Hydraulic Fluid and 100% Antifreeze, these versatile pumps offer flexibility, economy and simplicity. A unique patented gear and rotor design provides for efficient positive displacement pumping. This, in conjunction with a specially designed bypass allows for the transfer of a wide range of fluids up to a viscosity of 3,150 cps. Liquidynamics Bulk Transfer Pumps are designed to automatically minimize current draw by responding to increases

in viscosity by limiting output flow, thus staying within the amperage limitations imposed by 115 VAC power sources. Other configurations available, contact Liquidynamics for more information. Any of the Transfer Pumps below may be fitted with the optional "PowerMaster" control by adding a 'P' suffix to the base number, i.e.; P/N 33280 with PowerMaster becomes P/N 33280P. See page 96 for features and benefits of the PowerMaster control option.



P/N 33280 shown

Three Speed Bulk Transfer Cart

P/N **33280** and P/N **33280P**

A unique three speed gear box allows this pump to be used over a tremendous range of viscosities ranging up to 3,150 cps. By simply shifting gears you can pump "thin" fluids such as 100% Antifreeze or Hydraulic Oil at 40 GPM, medium viscosity fluids such as 10W30 Motor Oil at 20 GPM or "thick" fluids such as 120 wt Gear Oil at 10 GPM.

The mobile cart is constructed of heavy gauge 1" steel tubing for strength and powder coated for durability. The cart is supplied complete with 2" x 10' suction hose, 1½" x 15' discharge hose, 1½" manual nozzle and 12 ga. x 25' three wire power cord. An integral 2½ gallon drip catch tank stores any drippage from the suction hose, stinger or discharge nozzle and has a convenient drain valve for draining. Cam and grooves are provided on both ends of the suction and discharge hoses for easy removal of hoses and accessories. Dimensions, 24" W x 24" D x 48" H.

Single Speed Transfer Cart for Medium Viscosities

P/N **33267-20CG** and P/N **33267P-20CG**

This cart system is similar in design and function to P/N 33280 described above, except that it has a single speed gear reduction, which allows pumping of "light" and medium viscosities (max 625 cps) at 20 GPM. It is a more economical solution for applications where the versatility of the three speed gear flexibility is not required.



P/N 33271 shown

High Volume Transfer Cart for Light Viscosities

P/N **33267** and P/N **33267P**

Ideal for high volume transfer of "light" (max 165 cps) viscosities such as 100% Antifreeze, Transmission Fluid, Hydraulic Fluid and Cutting Oils. It is similar in design and function to P/N 33280 described above, except that it does not utilize a gear reduction between the pump and motor, which allows transfer rates of 40 GPM. It is an excellent solution for applications where a fixed gear reduction or the versatility of the three speed gear reduction is not required.

Medium Viscosity 20 GPM Transfer Cart

P/N **33271** and P/N **33271P**

Designed for transfer of light Oils, Hydraulic Fluid, Transmission Fluid and Antifreeze, this versatile gear pump offers economy, reliability and simplicity. The Bronze construction allows this pump to be used for bulk transfer of pre-mixed antifreeze and other water based fluids up to 165 cps. 'C' face mountings ensure rigid and maintenance free alignment between pump and motor.

The system is equipped with a 1" x 10' suction hose, 1" x 20' discharge hose, ball control nozzle and a 30 mesh inlet strainer. Plumbing is constructed of bronze fittings and schedule 40 bronze piping for maximum compatibility with a wide range of fluids. The sturdy two wheel cart is constructed of heavy gauge 1" powder coated steel tubing and has large 10" pneumatic tires for ease of portability. A rotary on/off switch is provided for pump control along with 25' of 12 gauge, 3 wire power cord. An optional meter may be installed to monitor transfer quantities for inventory control purposes. Dimensions; 24"W x 16"D x 48"H

BULK TRANSFER PUMPS

These unique lube oil transfer carts use high capacity, 2:1 ratio, double diaphragm pumps to facilitate bulk transfer of viscous lubricants such as locomotive engine oils, gear oils and similar heavy viscosity lubricants. The carts are supplied with 10' suction and 20' discharge hoses complete with cam and groove fittings and discharge shutoff nozzle. The heavy duty two wheel cart has a convenient "drip" catch tank which also serves as a receptacle for the discharge nozzle. The cart is constructed from 1" steel tubing for strength and powder coated for durability and features large 10" pneumatic tires for ease of portability. An included air filter/regulator provides control of fluid pumping rate.

1½" PUMP CART, 50 GPM

P/N **33286**

- 1½" Double Diaphragm Pump, 2:1 Ratio
- Flow Rates up to 50 GPM
- 2" x 10' Suction Hose
- 1½" x 20' Discharge Hose
- Aluminum Pump with Buna N (NBR) Seals and Diaphragm
- Maximum Liquid Temperature 180° F
- Air Supply Pressure 20 – 100 PSI at up to 100 CFM required
- Maximum Solid Size 9/32" (7 mm)

2" PUMP CART, 75 GPM

P/N **33287**

- 2" Double Diaphragm Pump, 2:1 Ratio
- Flow Rates up to 75 GPM
- 2" x 10' Suction Hose
- 2" x 20' Discharge Hose
- Aluminum Pump with Buna N (NBR) Seals and Diaphragm
- Maximum Liquid Temperature 180° F
- Air Supply Pressure 20 – 100 PSI at up to 180 CFM required
- Maximum Solid Size 5/16" (8 mm)



P/N 33286 shown.

4 WHEEL TRANSFER CARTS



Single Speed Cart with PowerMaster

P/N **33380-V1**

Single speed transfer cart provides 20 GPM flow rate using a fixed 2:1 gear ratio for use with medium viscosity fluids up to 600 cps. The included PowerMaster provides flow rate control as well as circuit breaker protection. A Weights and Measures approved meter includes an air eliminator. Ticket printer and/or preset capability may added as additional options.

The cart frame is constructed from 1/4" plate steel for strength and rigidity and powder coated for durability. Large 10" pneumatic casters and wheels provide maneuverability and reliability.

Three Speed Cart With PowerMaster

P/N **33384P**

This unique, 115 VAC heavy duty cart is designed to transfer a wide variety of oils and hydraulic fluids to 4,900 cps, which includes 80-90W gear oil down to 40° F.

The 3 speed gear box allows you to transfer lighter viscosities at up to 40 GPM in third gear, 20 GPM in second gear for medium viscosities, while first gear will allow up to 10 GPM for heavy viscosities. The PowerMaster provides additional flow rate control within each selected gear as well as automatically adjusting pump speed to prevent circuit breaker tripping.

The onboard Weights and Measures approved meter includes an air eliminator. Ticket printer, preset capability are available as an additional option.

The cart is supplied with a 12 gauge x 20' power cord, manual high flow nozzle, 2" x 10' suction hose and 1½" x 15' discharge hose. Hoses and cart are fitted with camlock fittings to easy connection/disconnection.



The cart frame is constructed from 1/4" plate steel for strength and rigidity and powder coated for durability. Large 10" pneumatic casters and wheels provide maneuverability and reliability.

BULK TRANSFER PUMP ACCESSORIES

Suction and Discharge Hoses for use with bulk transfer carts/skids and filter carts/skids

Hoses are heavy duty curb type hoses that resist abrasion and kinking. 1" hoses are rated to 250 PSI, 1½" and 2" hoses are rated to 150 PSI.



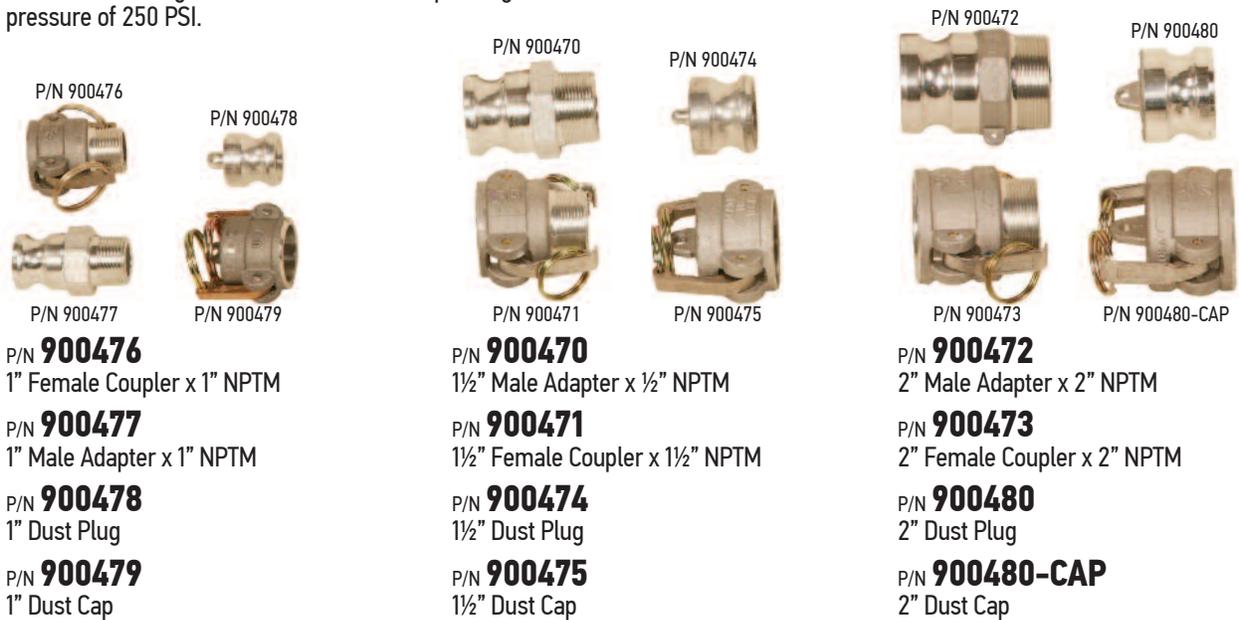
- P/N **81291-10A**
2' x 10' Petro Hose assembly with male/female Cam and Groove fittings
- P/N **81291-15A**
2' x 15' Petro Hose assembly with male/female Cam and Groove fittings
- P/N **81291-20A**
2' x 20' Petro Hose assembly with male/female Cam and Groove fittings

- P/N **81281-10A**
1½" x 10' Petro Hose assembly with male/female Cam and Groove fittings
- P/N **81281-15A**
1½" x 15' Petro Hose assembly with male/female Cam and Groove fittings
- P/N **81281-20A**
1½" x 20' Petro Hose assembly with male/female Cam and Groove fittings

- P/N **900279-B-10**
1" x 10' Petro Hose assembly with male/female Cam and Groove fittings
- P/N **900279-B-15**
1" x 15' Petro Hose assembly with male/female Cam and Groove fittings
- P/N **900279-B-20**
1" x 20' Petro Hose assembly with male/female Cam and Groove fittings

Cam and Groove Fittings

These Cam and Groove fittings are aluminum construction and have Buna N gaskets with a maximum operating pressure of 250 PSI.



- P/N **900476**
1" Female Coupler x 1" NPTM
- P/N **900477**
1" Male Adapter x 1" NPTM
- P/N **900478**
1" Dust Plug
- P/N **900479**
1" Dust Cap

- P/N **900470**
1½" Male Adapter x ½" NPTM
- P/N **900471**
1½" Female Coupler x 1½" NPTM
- P/N **900474**
1½" Dust Plug
- P/N **900475**
1½" Dust Cap

- P/N **900472**
2" Male Adapter x 2" NPTM
- P/N **900473**
2" Female Coupler x 2" NPTM
- P/N **900480**
2" Dust Plug
- P/N **900480-CAP**
2" Dust Cap

BULK TRANSFER PUMP ACCESSORIES



P/N 32108
 1½" NPTF inlet, high flow manual shutoff nozzle, has an aluminum body with brass valve stem, 1½" dia. x 8" long brass spout with Viton seals. Body includes "hold - open" notches. Ideal for use in dispensing oils, hydraulic fluids, antifreeze and diesel fuel. Weight 6 lb.



P/N 32105
 2" NPTF Manual shutoff nozzle has dashpot design for easier opening and cushioned close. Has aluminum body with brass stem and spout, 2½" x 9" long brass spout. Viton disc and Teflon packing, Weight 11 lb.

Dry-Mate Disconnect Fittings

Dry-Mate fittings are lightweight polypropylene construction with Viton seals and PTFE seats. Provides unrestricted 1½" flow with minimal spillage (2 ml) during disconnection. The Dry-Mate system does not allow valves to be uncoupled while in the open position thus preventing accidental spillage. Maximum operating pressure is 100 PSI.



P/N 900581 shown



P/N 900580 shown

P/N 900580A
 1½" Female Dry-Mate x 1½" NPTF
P/N 900581A
 1½" Male Dry-Mate x 1½" NPTF

P/N 900580
 2" Female Dry-Mate x 2" NPTF
P/N 900581
 2" Male Dry-Mate x 2" NPTF

Suction Wands



P/N 950085

1" x 48" Suction wand has 45° angle at suction tip, SCH 80 PVC construction with 90° elbow and 1" Male Adapter Cam and Groove fitting at discharge end.

P/N 950084
 2" x 48" Suction wand has 45° angle at suction tip, SCH 80 PVC construction with 90° elbow and 2" Male adapter Cam and Groove fitting at discharge end. Suction tube is 1½" ID to allow OD (1.91") to fit into standard 2" bung opening.

PowerMaster Control Option

The "PowerMaster" is a revolutionary device that prevents nuisance tripping of circuit breakers which commonly occurs when transferring or filtering viscous fluids. This amazing device automatically senses available circuit current, user selectable for either 15 or 20 amp circuits, and adjusts pump speed to maintain current draw below circuit breaker limits. This eliminates tripping of circuit breakers, speeds up filtering and ensures efficient filtering.

Additional benefits of this technology allows the user to manually adjust flow rate to "best" filter specifications depending on fluid viscosity, required ISO cleanliness level and quantity of fluid to be filtered. You can also extend filter element life by adjusting flow rate to maintain optimum filtration performance. Whereas, fixed flow rate systems obligate you to change filters when the maximum differential pressure is exceeded.



BULK TRANSFER SKIDS



High Volume Transfer Pump Skid for Light Viscosities

P/N **33265**

An economical solution for the high volume transfer at 40 GPM of "light" (max 165 cps) viscosities such as 100% Antifreeze, Hydraulic Fluid, Transmission Fluid and Cutting Oils. The pump and motor are identical to the High Volume Transfer Pump Cart System P/N 33267, but utilizes a heavy duty skid frame to house the pump and motor. 1½" inlet and discharge. Order optional accessories shown on page 95 and 96 as necessary, to customize your skid configuration.

Single Speed Transfer Pump Skid for Medium Viscosities

P/N **33265-20SG**

This versatile skid mounted gear pump offers an economical, reliable and simple solution for the transfer of "medium" viscosity fluids such as 10W30 Motor Oils (max 625 cps). The pump, motor and gear reduction are identical to the Single Speed Transfer Pump Cart system P/N 33267-20CG, but utilizes a skid frame to house the pump, motor and gear box. Order optional accessories shown on page 95 and 96 as necessary, to customize your skid configuration.

The skid cage is constructed of heavy gauge 1" steel tubing for strength and powder coated for durability. The pump is fitted with 1½" quick connect cam lock fittings to allow easy attachment of available accessories such as suction hose, stinger, discharge hose and nozzle, see page 95 and 96.

P/N **33265P-20SG**

Same as above except includes PowerMaster control.



P/N 33265P-20SG shown

Hand Carry 7 GPM Bulk Transfer Pump

P/N **33261**

Ideal for transfer of Motor Oils, Transmission Fluid, Hydraulic Fluid and 100% Antifreeze, this versatile vane pump offers economy, reliability and simplicity. The five vane rotor design provides efficient positive displacement pumping. This, in conjunction with the continuous rated, 1½ HP motor allows for transfer of a wide range of fluids up to 490 cps. The unique hand carry frame mount is extremely portable, yet the system can empty a 55 gallon drum of oil in less than 8 minutes. An integral on/off rocker switch, 6' grounded power cord and quick connect 1" cam and groove fittings are provided for convenient pump connection and control. The use of a cast iron pump body bolted directly to the motor ensures a rigid and maintenance free alignment between pump and motor. Dimensions 14"W x 21"L x 12"H.



Part Number	Nominal GPM	Max. Viscosity, cps	Fluid Inlet	Fluid Outlet	Horsepower	Voltage	Amperage	Weight
33261	7	490	1"	1"	1.5	115/230	16/8	45
33265	40	165	1.5"	1.5"	2	115/230	16/8	149
33265-20CG	20	625	1.5"	1.5"	2	115/230	16/8	160
33267	40	165	2"	1.5"	2	115/230	16/8	172
33267-20CG	20	625	2"	1.5"	2	115/230	16/8	170
33271	20	165	1"	1"	2	115/230	6/12	125
33280	10/20/40	3150	2"	1.5"	2	115/230	16/8	320
33286	50	3000	2"	1.5"	N/A	Air	N/A	210
33287	75	3000	2"	2"	N/A	Air	N/A	240
33380-V1	20	600	2"	1.5"	2	115/230	16/8	290
33384P	10/20/40	4900	2"	1.5"	2	115/230	16/8	320

PURELUBE FILTER SYSTEMS

Liquidynamics PureLube Filter Systems offer excellent solutions for fluid filtering applications by providing a wide selection of filter carts, mini carts, portable hand carry systems and custom designed systems. These filter carts are designed to handle a broad range of viscosities and flow rates in order to efficiently and economically filter small, medium and large capacity gear boxes, reservoirs and storage tanks.

For high viscosity applications, Liquidynamics uses "Depth" type filters that provide efficient particulate removal via long flow paths which, achieves low micron filtration in the 1 to 3 micron range. These filters are also efficient for removing water at up to 1 gallon per element. Choose your filter element below to best fit your application.

High Viscosity Filter Cart

P/N **33277**

For absolute filtration of high viscosity fluids up to and including ISO 680, this is the solution. Two Depth Filters plumbed in parallel provide a large surface area which allows very slow movement of fluid for effective filtration of particles in the 1 to 3 micron range along with water removal of up to 1 gallon of water per element.

The heavy gauge 1" steel tubing cart frame is powder coated for strength and durability, 10" pneumatic wheels provide easy control and movement. Standard equipment includes 5 GPM internal gear pump with 2 HP, 115 VAC motor, 1" x 10' suction hose with 4' probe, 1" x 15' discharge hose with probe, cam and groove hose connections, filter pressure gauges and probe/discharge nozzle retainer/drip catch system.



High Viscosity Filter Cart w/PowerMaster Control

P/N **33277-P**

Same as P/N 33277 but includes PowerMaster option. See page 96 for additional information on PowerMaster features and benefits.



Replacement Filter Elements

For use with P/N 33277 and 33277-P High Viscosity Filter Carts.

P/N **71460-4**

Four section filter for use with medium weight oils, ISO 32 through 68, such as mineral and synthetic hydraulic, dielectric, turbine oil, lubricating oils and cutting oils, 2-6 micron filtration.

P/N **71460-6**

Six section filter for use with medium weight lube oils, ISO 68 through 150.

P/N **71460-8**

Eight section filter for use with heavy weight lube oils, ISO 150 through 680.

4 GPM Absolute Filtration Cart

P/N **33278**

This 115 VAC filter cart is a perfect solution for filtering or transferring light to medium viscosities up to 2,000 centistoke (80/90 gear oil at 500 F) at 4 GPM. The cart is supplied with two high efficiency filters plumbed in series allowing you to cut in half the time it takes to circulate and reduce your fluid cleanliness by one ISO level. Alternatively, you may select a dewatering filter for the first filter and a particulate filter as the second filter, thus solving two problems in one pass. This cart can also be used to transfer fluid without filtration by simply switching two valve positions. When ordering this cart, please specify which filters you would like from those shown at the bottom of page 99, i.e.; 71246-03, 71246-05, 71246-10, 71246-20 or 71246-10W.



3/4" x 12' suction and discharge hoses are included and have convenient cam and groove couplings at each end to allow easy connection/disconnection. An inlet strainer protects the pump from damage. The Cart is constructed of heavy gauge 1" steel tubing for strength and powder coated for durability, large 10" pneumatic tires provide easy maneuverability.



PURELUBE FILTER SYSTEMS

To ensure efficient filtering, Liquidynamics uses 5 layer, high performance filter elements, which have exceptionally high contaminant holding capacities while also achieving Beta ratios exceeding 200. This ensures reaching your target ISO fluid cleanliness levels while maintaining high fluid quality and superior system longevity. These elements are available in cartridge and spin-on styles for both particulate and water removal applications.

20 GPM Absolute Filtration Cart

P/N **33276**

Practical, versatile and reliable are some of the ways to describe this Filter/Transfer Cart.

Versatile plumbing allows this cart to be used for bulk transfer at up to 20 GPM, as well as filtration, by simply opening and closing a couple of valves. With its well designed features and sturdy construction, this cart is eminently practical.

Engineered reliability is evident from the heavy gauge 1" steel tubing construction, powder coated for durability. Easy maneuverability is assured with 10" pneumatic tires. Unit is supplied with unique probe/discharge nozzle retainer/drip catch system.

The cart is equipped with a 10' suction hose, 20' discharge hose and 4' suction

and discharge probe. Hose and probes are fitted with cam and groove fittings to allow easy connection/disconnection. Probes are easily stored in the handy drip receptacles while the hoses can be coiled on the provided retainers. Optional fluid sample ports may be added before and/or after the filter as desired. Differential pressure gauges are provided to allow monitoring of filter condition.

20 GPM Absolute Filtration Cart w/PowerMaster Control

P/N **33276-P**

Same as P/N 33276 but includes PowerMaster option. See page 96 for features and benefits of the PowerMaster control option.

P/N **33276L-P**

Same as P/N 33276 but includes PowerMaster option and parallel filters. See page 96 for features and benefits of the PowerMaster control option.



P/N 33276 shown w/ series filtration



Three Speed Cart with PowerMaster and Filtration

P/N **33384P**

This unique, 115 VAC heavy duty cart is designed to transfer and/or filter a wide variety of oils and hydraulic fluids up to 4,900 cps, which includes 80-90W gear oil down to 40°F.

The 3 speed gear box allows you to transfer lighter viscosities at up to 40 GPM in third gear, 20 GPM in second gear for medium viscosities, while first gear will allow up to 10 GPM for heavy viscosities. The PowerMaster provides additional flow rate control within each selected gear as well as automatically adjusting pump speed to prevent circuit breaker tripping. An optional differential pressure sensor is also available, which allows the operator to set the optimum differential pressure across the filter elements. The PowerMaster will then automatically control pump speed to maintain this preset pressure differential, thus prolonging filter life and ensuring optimum filtration efficiency.

The onboard Weights and Measures approved meter with automatic air eliminator provides accurate fluid measurement and can be ordered with an optional ticket printer and/or preset capability.

The cart is supplied with a 12 gauge x 20' power cord, manual high flow nozzle, 2" x 10' suction hose and 1½" x 15' discharge hose. Hoses and cart are fitted with camlock fittings to allow easy connection/disconnection.

The cart frame is constructed from 1/4" plate steel for strength and rigidity and powder coated for durability. Large 10" pneumatic casters and wheels provide maneuverability and reliability.



P/N 33384P shown

Replacement Filter Media

For use with P/N 33276, 33276-P, 33273-1, 33273-1A, 33273-2, 33273L-2, 33276LL-P, 33278, 33351 and 33352 Filter Systems.

These high efficiency filter canisters are designed to meet a full range of filtration requirements. They use an exceptionally durable and highly efficient proprietary 5 layer synthetic media that assures trouble free operation for all hydraulic and lubrication oil applications. With Beta ratios exceeding 200, pressure rating of 150 PSI (Element diff. pressure collapse) and exceptionally high dirt holding capacities, these elements are the best choice for achieving target fluid cleanliness levels while maintaining high fluid quality.

P/N **71246-03**

For target fluid cleanliness Level of 16/14/12 or better

P/N **71246-05**

For target fluid cleanliness Level of 18/16/14 or better

P/N **71246-10**

For target fluid cleanliness Level of 20/18/15 or better

P/N **71246-20**

For target fluid cleanliness Level of 22/19/16 or better

P/N **71246-10W**

For water absorption and cleanliness Level of 20/18/15

PURELUBE FILTER SYSTEMS

Hand Carry Absolute Filter Module w/Dual Inline Filters

P/N **33273-2**

This small, compact hand carry module is ideal for use with light to medium viscosities such as hydraulic fluids and engine oils. Applications include kidney loop systems, 55 gallon drums and other portable or temporary applications. This model uses two 11" spin-on filter elements, your choice of 3, 5, 10 or 20 micron elements, plumbed in series with a 7 GPM pump. Pump inlet is protected with a 20 mesh 'Y' strainer and has 3/4" NPTF suction/discharge. Pump discharge/bypass pressure is adjustable to 80 PSI, 1.5 HP Motor, 115 VAC, 13 amp.



P/N 33273-2 shown

Hand Carry Absolute Filter Module w/Parallel Filters

P/N **33273L-2**

Same as P/N 33273-2 except filters are plumbed in parallel for increased contaminant holding capacity and/or higher viscosity capability.

P/N **33273L-2-V1**

Same as P/N 33273L-2 except utilizes 3 GPM P/N 33221 pump.

Hand Carry Absolute Filter Module w/Single Filter

P/N **33273-1**

Same as P/N 33273-2 except that only one 11" canister filter is used. This provides a more economical initial investment and is ideal for situations where contaminant loads are not expected to be very high.

P/N **33273-1A**

Same as P/N 33273-1 except utilizes 3 GPM P/N 33221 pump for use with heavier viscosities.

Oil Filter Cart, With Nominal Filtration

P/N **33275**

The ideal tool for circulating and filtering oil in existing tanks. This portable cart uses a 115 VAC pump rated at 7 GPM and includes a 6' suction hose with inlet screen. The 6' discharge hose includes a 3' stinger. An included pressure gauge allows easy determination of when the 10 micron nominal filter is dirty. See page 103 and 104 for replacement filter cartridges.



P/N 33352-10 shown



KIDNEY LOOP FILTRATION SYSTEMS

Kidney loop filtration is an essential component of your equipment reliability program and is critical to maintain target fluid cleanliness within specified levels. The 33350 series Kidney Loop Systems are designed to efficiently re-

circulate and filter 100% antifreeze, hydraulic fluid, transmission fluid, engine oil and gear oil. All systems are supplied with 115 VAC pump/motor with an integrated on/off switch, suction strainer to protect the pump, mounting bracket to allow wall mounting, filter head with 50 PSI bypass and differential pressure gauge and your choice of filter element.

P/N **33351**

This kidney loop system is rated at 2.5 GPM and is designed to be used to recirculate and filter small tanks and/or high viscosities, up to 2,000 centistoke. The system uses a continuous duty, IP55 rated motor and internal gear pump rated to 170 PSI.

P/N **33352**

This system is rated at 7 GPM and is ideal for use with larger tank volumes and light to medium viscosities up to 500 centistoke. The motor is rated for continuous duty and has an IP55 rating. The vane pump design is very efficient for use with lighter viscosities and higher flow rates.

P/N **33351-03**

System with 3 micron, micro glass filter element

P/N **33351-05**

System with 5 micron, micro glass filter element

P/N **33351-10**

System with 10 micron, micro glass filter element

P/N **33351-20**

System with 20 micron, micro glass filter element

P/N **33351-10W**

System with 10 micron water adsorption filter element

P/N **33352-03**

System with 3 micron, micro glass filter element

P/N **33352-05**

System with 5 micron, micro glass filter element

P/N **33352-10**

System with 10 micron, micro glass filter element

P/N **33352-20**

System with 20 micron, micro glass filter element

P/N **33352-10W**

System with 10 micron water adsorption filter element

WALL MOUNT PUMP SYSTEM



This versatile wall mount pump system provides a convenient means to not only dispense your oils and hydraulic fluids, but also ensures that the fluid being dispensed meets your ISO cleanliness standards. This is accomplished with the use of a high performance filtration system with Beta Ratios of up to 1,000. Filter isolation valves and a bowl-ring design allows for quick and easy filter element change outs.

The 8" long filter housing has a working pressure of up to 800 PSI and includes a pop-up indicator to warn when the element requires changing. The BetaPore™ 5-Layered, high performance filters used in these systems have β ratios of greater than 200 and exceptionally high dirt holding capacities. A selection of filter elements allows you to meet your cleanliness requirements as outlined below.

The 1:1 pump systems are ideal for use with low viscosity fluids that are being pumped short distances of less than 100 ft.

P/N 32091-S5-03
1:1 Pump System w/3 micron filter, for target cleanliness levels of 16/14/12 or better

P/N 32091-S5-06
6 micron filter, for target cleanliness levels of 18/16/14 or better

P/N 32091-S5-12
12 micron filter, for target cleanliness levels of 20/18/15 or better

3:1 ratio pump systems are the best choice for medium viscosity fluids and intermediate distances of up to

approximately 150 feet and may also be used for any 1:1 applications.

P/N 20001T-S5-03
3:1 Pump System w/3 micron filter, for target cleanliness levels of 16/14/12 or better

P/N 20001T-S5-06
6 micron filter, for target cleanliness levels of 18/16/14 or better

P/N 20001T-S5-12
12 micron filter, for target cleanliness levels of 20/18/15 or better

A 5:1 pump system is a good choice for heavier viscosities and/or pumping distances greater than 150 feet. The 5:1 pump system is also applicable to any 3:1 and 1:1 applications.

P/N 21100T-S7-03
5:1 Pump System w/3 micron filter, for target cleanliness levels of 16/14/12 or better

P/N 21100T-S7-06
6 micron filter, for target cleanliness levels of 18/16/14 or better

P/N 21100T-S7-12
12 micron filter, for target cleanliness levels of 20/18/15 or better

PURELUBE ABSOLUTE HIGH PRESSURE FILTERS

Purelube absolute Discharge Filters are designed to be installed on the discharge side of 1:1, 3:1 and 5:1 ratio pneumatic pumps and will handle working pressures up to 800 PSI with typical burst pressure of 2,000 PSI. A convenient visual indicator provides a warning when the filter element needs to be changed, a 35 PSI differential pressure will cause the indicator to show "Red". The filter head has 2" NPTF threads to minimize pressure drop and

maximize fluid flow. Filter elements are easily changed by unscrewing the canister from the filter head and replacing the element.

Purelube absolute discharge filters are 8" in length, have a Beta rating of 1,000 and are available in your choice of 3, 6, 12 and 25 micron ratings to achieve ISO cleanliness ratings of 16/14/12, 18/16/14, 20/18/15 and 22/19/16 respectively.

All filter assemblies include 800 PSI rated filter head and bowl, 50 PSI bypass, 35 PSI visual indicator and filter element as indicated below.

8" Bowl Filter Assembly

Part Number Description

71150-03	Includes 3 micron filter for ISO 16/14/12 cleanliness level
71150-06	Includes 6 micron filter for ISO 18/16/14 cleanliness level
71150-12	Includes 12 micron filter for ISO 20/18/15 cleanliness level
71150-25	Includes 25 micron filter for ISO 22/19/16 cleanliness level

Replacement 8" filter elements

71250-03	3 micron filter element for 8" bowls
71250-06	6 micron filter element for 8" bowls
71250-12	12 micron filter element for 8" bowls
71250-25	25 micron filter element for 8" bowls



P/N 901111 wall mounting kit sold separately below.)

P/N 71150-06 shown with P/N 901111

High Pressure Filter wall mounting kit

P/N 901111

Includes isolation valves, wall mounting bracket and hardware to attach bracket to filter head. Allows filter element to be changed with minimal leakage and without having to remove air pressure from pump.

NOTE: Does not include hardware to mount bracket to wall.

PURELUBE DESICCANT AND AIR BREATHER FILTER

Liquidynamics PureLube desiccant breathers are a unique, patented air filter and vapor removal system designed to eliminate water, particulate and vapor contamination from entering storage tanks, drums, industrial equipment, transformers and other fluid reservoirs. Silica Gel desiccant adsorbs up to 40% of its weight in water and turns from gold to dark green to indicate when the breather needs to be replaced. Solid contaminants are removed prior to air entering the water adsorbent desiccant section of the filter by a two micron particulate filter. Another two micron particulate filter at the bottom of the unit prevents any desiccant

dust from entering the storage vessel. Additionally, a layer of activated carbon removes oil vapors, fumes and odors as air is expelled from the storage vessel.

These desiccant breathers are available in a variety of shapes and sizes to fit most any application, the most popular sizes are listed below. Additional sizes and designs are available for applications that require larger quantities of desiccant, metal construction or special connections.

Compact Desiccant Breathers, 10 CFM Max Air Flow

Part Number	Description
710131	2" diameter, 1.35" tall, 1/2" NPTF Fitting
710132	2" diameter, 3" tall, 1/2" NPTF Fitting
710133	3/4" diameter, 1.75" tall, 1/2" NPTF Fitting
710134	3/4" diameter, 3" tall, 1/2" NPTF Fitting

Disposable Desiccant Breathers, 35 CFM Max Air Flow

710100	5" diameter, 3.5" tall, 0.2 lb water capacity, 1" Slip Fitting*
710101	5" diameter, 5" tall, 0.4 lb water capacity, 1" Slip Fitting*
710102	5" diameter, 8" tall, 0.9 lb water capacity, 1" Slip Fitting*
710103	Same as P/N 710102 except with NPT fitting
*900424-01	1" female slip x 1" NPTM adapter fitting

Disposable Desiccant Breather, 100 CFM Max Air Flow

710108	5" diameter, 10" tall, 1.3 lb water capacity, 2" NPTM Fitting
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Disposable Desiccant Cartridge, 250 CFM Max Air Flow

710109	6" diameter, 14" tall, 1.6 lb water capacity, 3" NPTM Fitting
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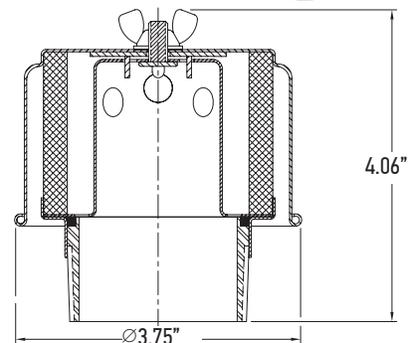


PURELUBE AIR BREATHER FILTER

Storage tanks "breathe" as fluid and air temperatures vary as well as when fluid is removed or added to storage tanks. This breathing process also introduces contaminants such as dust, dirt, pollen and other particulate matter. A simple solution is to add a breather filter in place of an open vent. The Liquidynamics PureLube Air Breathers are engineered for use on lubricant storage drums, tanks and totes. These breathers come standard with 2" NPTM threads and your choice of 10 micron wire mesh media (94% efficient at 10 micron), 5 micron layered polyester media (98% efficient at 5 micron) or 5 micron pleated paper media (99.3% efficient at 5 micron). The wire mesh and polyester media may be cleaned in a suitable solvent and reused. The paper media is not reusable.

Following is a listing of available breathers and replacement elements:

Part Number	Description
72101	2" NPTM, 10 Micron Wire Mesh Media, 94% efficient
72102	2" NPTM, 5 Micron Polyester Media, 98% efficient
72103	2" NPTM, 5 Micron Pleated Paper Media, 99.3% efficient
72110	Replacement Wire Mesh Media
72111	Replacement Layered Polyester Media
72112	Replacement Pleated Paper Media



LOW PRESSURE NOMINAL FILTERS AND ADAPTERS

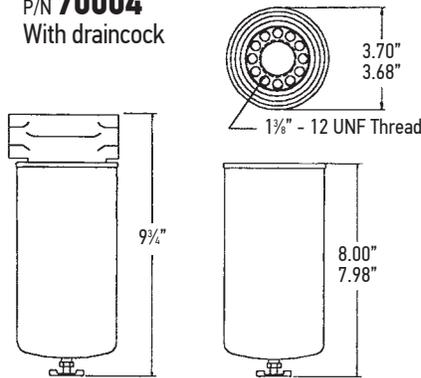
Liquidynamics offers a wide range of water absorption and nominal particulate filters for use with oil, diesel and gasoline. Maximum flow ranges are from 15 GPM for your dispenser type

pumps to 40 GPM for truck service applications. Included are filter elements utilizing a 1" flow path to minimize the pressure drop for gravity flow applications.

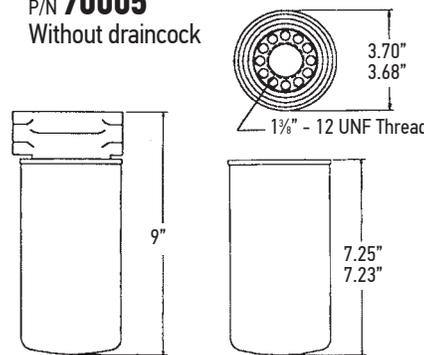
Note: Not for use in filtering aviation fuels.

Filter Part Number	Hydrosorb	Particulate Micron Rating	with Draincock	Max. Flow Rate	Case Qty.	Flow Port Size	Recommended Adapters				Thread Type
							Aluminum		Iron		
							3/4"	1/2"	3/4"	1"	
70002	—	10μ	Yes	18 GPM (67 LPM)	6	3/4"	50181	—	50003	50002	NPT
70003	—	10μ	No	18 GPM (67 LPM)	6	3/4"	50181	—	50003	50002	NPT
70004	—	10μ	Yes	18 GPM (67 LPM)	6	1"	—	—	—	50004	NPT
70005	—	10μ	No	18 GPM (67 LPM)	6	1"	—	—	—	50004	NPT
70061	Type 2	10μ	No	18 GPM (67 LPM)	12	1"	—	—	—	50004	NPT
70062	Type 2	10μ	No	18 GPM (67 LPM)	12	3/4"	50181	—	50003	50002	NPT
70067	Type 2	30μ	No	18 GPM (67 LPM)	12	3/4"	50181	—	50003	50002	NPT
70064	Type 2	30μ	No	15 GPM (56 LPM)	12	3/4"	50181	—	50003	50002	NPT
70019	—	10μ	No	40 GPM (150 LPM)	6	1 1/4"	—	50163	—	—	NPT
70063	Type 2	10μ	No	40 GPM (150 LPM)	6	1 1/4"	—	50163	—	—	NPT
70068	Type 2	30μ	No	40 GPM (150 LPM)	6	1 1/4"	—	50163	—	—	NPT

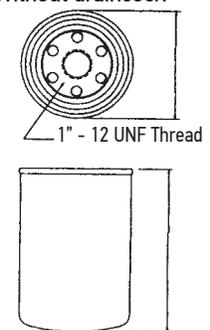
P/N **70002**
P/N **70004**
With draincock



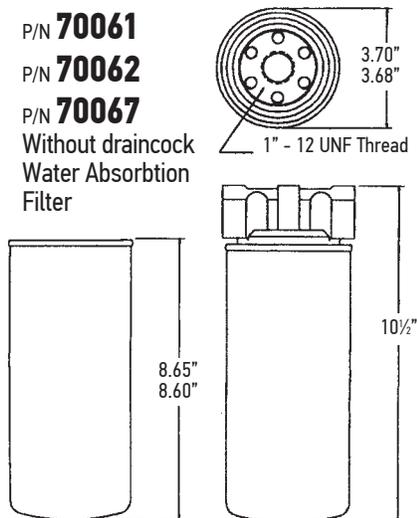
P/N **70003**
P/N **70005**
Without draincock



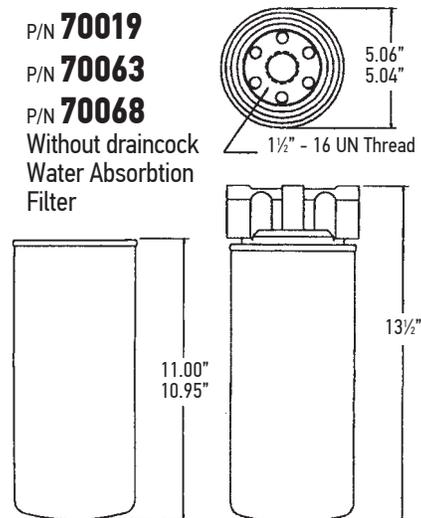
P/N **70064**
Without draincock



P/N **70061**
P/N **70062**
P/N **70067**
Without draincock
Water Absorption Filter



P/N **70019**
P/N **70063**
P/N **70068**
Without draincock
Water Absorption Filter



NOMINAL FILTERS AND ADAPTERS

P/N 70002

10 micron particulate filter with draincock, 3/4" flow port, 18 GPM max flow.

P/N 70003

10 micron particulate filter without draincock, 3/4" flow port, 18 GPM max flow.



P/N 70003 shown

P/N 70061

Type 2 water absorption filter, 10 micron particulate, 1" flow port, 18 GPM max flow.

P/N 70062

Type 2 water absorption filter, 10 micron particulate, 3/4" flow port, 18 GPM max flow.

P/N 70067

Type 2 water absorption filter, 30 micron particulate, 3/4" flow port, 18 GPM max flow.

P/N 70064

Type 2 water absorption filter, 30 micron particulate, 3/4" flow port, 15 GPM max flow.



P/N 70061 shown

P/N 70004 shown



P/N 70004

10 micron particulate filter with draincock, 1" flow port, 18 GPM max flow.

P/N 70005

10 micron particulate filter without draincock, 1" flow port, 18 GPM max flow.



P/N 70063 shown

P/N 70019

10 micron particulate filter without draincock, 1/4" flow port, 40 GPM max flow.

P/N 70063

10 micron filter for water absorption, 1/4" flow port, 40 GPM max flow.

P/N 70068

30 micron filter for water absorption, 1/4" flow port, 40 GPM max flow.

P/N 50003

3/4" NPTF Cast Iron in line filter adapter (3/4" flow path)

P/N 50002

1" NPTF Cast Iron in line filter adapter (3/4" flow path)

P/N 50004

1" NPTF Cast Iron in line filter adapter (1" flow port)



P/N 50003 shown

P/N 50181

3/4" NPTF Aluminum in line filter adapter (3/4" flow port)

P/N 50109

1" NPTF Aluminum in line filter adapter (1/4" flow port). For use with P/N 70019, 70063 and 70068 high flow filter elements.

P/N 50163

1/2" NPTF Aluminum in line filter adapter (1/4" flow path). For use with P/N 70019, 70063 and 70068 high flow filter elements.



P/N 50109 shown



P/N 71146

Dual element aluminum filter adapter with 50 PSI internal bypass. Has 1/2" NPTF threads for use with P/N 70019, 70063 and 70068 high flow filter elements. Filter head has differential ports available for installation of gauges and/or visual indicator to warn of dirty filters.

REFERENCE INFORMATION

Relative Sizes of Particles

Substance	Micron	Inches
Grain of table salt	100	.0039
Human hair	70	.0027
Lower limit visibility	40	.0016
Milled flour	25	.0010
Red blood cells	8	.0003
Bacteria	2	.0001

USED OIL DRAIN WITH BLOWBACK SAFETY FEATURE

P/N **24175G**

Now you can avoid spills and eliminate the mess associated with collecting used oil and similar fluids. This used oil drain offers a handy and practical method for draining motor oil, gear oil, differential oil, transmission fluid and coolants from vehicles located on lifts or pits. This drain provides you with a closed loop system for moving used oil and other engine fluids from the vehicle to a recycling center.

The defining feature of this oil drain is its' built-in blowback safety feature which prevents accidental oil gusher/spills when the operator forgets to close the down-tube drain valve when pressurizing the tank. Pressurizing air is harmlessly vented at the base of the down-tube until the down-tube is fully raised to seal the vent. In this case, if the drain valve is left open, pressurizing air is again harmlessly vented through the down-tube until the operator shuts off the drain valve.

A good used oil drain helps comply with today's exacting environmental guidelines, minimizing the risk of hazardous materials coming in contact with personnel or the environment. The used fluid simply gravity drains into the large 22" diameter drain pan that pivots to cover a 31.5" dia. circle without having to move the drain. The drain pan holds up to 5 gallons of fluid, which then drains into the 24 gallon holding tank. Approximately 7 to 10

PSI of shop air is used to quickly and easily evacuate the fluid from the tank, a safety relief valve prevents over-pressurization. Alternatively, a dry break disconnect kit, P/N 950017, is available if evacuation via a double diaphragm pump is preferred.

This drain is simple to use and comes complete with a fluid level sight gauge, pivoting fluid bowl, supplied with a grate to allow drainage of filters, tool tray, large 8" diameter wheels for ease of movement and a spring loaded, ratcheting handle to secure the adjustable drain down-tube. The swivel mounted drain pan allows the technician to position the drain bowl to align with the flow of used oil without having to move the entire drain.

This used oil drain is fast, efficient, easy to use and extremely portable; simply roll it to the desired location. The drain is a major component in the recovery, containment and recycling of used oil and other engine fluids.

Specifications

Model Number	24175G
Tank Capacity	24 Gallons
Collection Bowl Capacity	5 Gallons
Min. Working Height	46"
Max. Working Height	69"
Discharge Hose Length	6'
Relief Valve pop-off Pressure	14 PSI
Shipping Weight	66 lb

Warning: Do Not Use This Drain for Diesel Fuel, Gasoline or other flammable Fluids.



Removable tool tray provides convenient storage for tools and drain plugs.



Air Vent

Unique anti-blowback safety feature prevents accidental oil gusher/spills when the operator forgets to close the down tube drain valve when pressurizing the tank. Pressurizing air is harmlessly vented at the base of the down-tube until the down-tube is fully raised and locked in position.

Large 22" dia. drain pan covers a 31.5" dia. circle and holds 5 gal. of fluid and may also be used to drain filters.



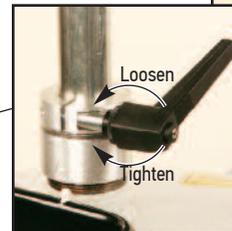
Schrader valve is used to pressurize the tank with approximately 7 PSI of air to empty tank.

Safety relief valve prevents over pressurization, relieves at 14 PSI



P/N **950017**

Optional Dry Break Quick Disconnect kit for to allow use with double diaphragm pumps. 1/2" NPTF fitting on female coupler for connection to hose. 1/2" NPTM fitting on male coupler for connection to tank.



Loosen

Tighten

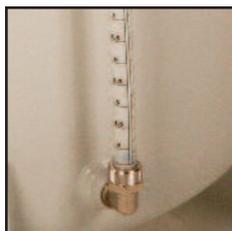


Engaged

Spring loaded, ratcheting handle allows easy adjustment of down-tube height position. Push button on handle as shown to disengage ratchet.



Disengage



Easy to read sight gauge shows tank level in liters and gallons and clearly indicates maximum permissible oil level.

Swivel casters are on the same side as handle for easy maneuvering.



Large 8" dia. wheels allows easy movement over obstructions.

USED OIL DRAIN WITHOUT BLOWBACK SAFETY FEATURE

P/N **24176**

Now you can avoid spills and eliminate the mess associated with collecting used oil and similar fluids. This used oil drain offers a handy and practical method for draining motor oil, gear oil, differential oil, transmission fluid and coolants from vehicles located on lifts or pits. With this drain you have a closed loop system for moving used oil and other engine fluids from the vehicle to a recycling center.

This used oil drain helps comply with today's exacting environmental guidelines, minimizing the risk of hazardous materials coming in contact with personnel or the environment. The used fluid simply gravity drains into the large 29" diameter, 3½ gallon drain pan, which then drains into the 21 gallon holding tank. Approximately 7 to 10 PSI of shop air is used to quickly and easily evacuate the fluid from the tank, a safety relief valve prevents over-pressurization. Alternatively, a dry break disconnect kit is available if evacuation via a double diaphragm pump is preferred.

This drain is simple to use and comes complete with a fluid level sight gauge, removable fluid extension kit with grate to allow drainage of filters, tool tray, pressure gauge, ball bearing wheels for ease of movement and handle to allow convenient raising and lowering of the drain pan. The swivel mounted drain pan allows the technician to position the drain bowl to align with the flow of used oil without having to move the entire drain.

This used oil drain is fast, efficient, easy to use and extremely portable, simply roll it to the desired location. The drain is a major component in the recovery, containment and recycling of used oil and other engine fluids.

Specifications

Model Number	24176
Tank Capacity	21 Gallons
Collection Bowl Capacity	5 Gallons
Min. Working Height	50.4"
Max. Working Height	76.4"
Discharge Hose Length	6.5'
Relief Valve pop-off Pressure	14 PSI
Shipping Weight	69 lb

Warning: Do Not Use This Drain for Diesel Fuel, Gasoline or other flammable Fluids.



USED OIL DRAINS

P/N 950100

Economical Used Oil Drain Kit for 16-gallon drums (drum not included).

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 950006 16 Gallon Drum Dolly
- P/N 901006 16 Gallon Cover



P/N 950100G shown

NOTE: Drum not included

P/N 950103

Economical Used Oil Drain Kit for 55 gallon drums (drum not included).

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 950008 55 Gallon Drum Dolly



P/N 950103G shown

NOTE: Drum not included



P/N 950102 shown

NOTE: Drum not included

P/N 950102

Used Oil Drain Kit for 55-gallon drums. Includes heavy-duty 4-wheel cart that comes complete with a tool tray and provision for storing drain pan while drum is being emptied. Drain pan kit is supplied with 2" bung adapter to fit standard openings.

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 51009C 4 Wheel Cart, 55 Gallon



P/N 950101

Same as P/N 950102 except fits 16-gallon drums.

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 51003C 4 Wheel Cart, 16 Gallon
- P/N 901006 16 Gallon Cover

P/N 950101 shown

NOTE: Drum not included

USED OIL DRAINS

P/N **42070**

Low profile, Portable Used Oil Drain has a large 25-gallon capacity and two internal baffles to prevent sloshing. Has 9" overall height, 2½" silent, non marking P.P. casters and sturdy 'T' handle for easy maneuverability. Standard unit comes with 1" ball valve drain. Dry break disconnects available for use with Double Diaphragm Pumps. 9" H x 24½" W x 46" L.



P/N **42071**

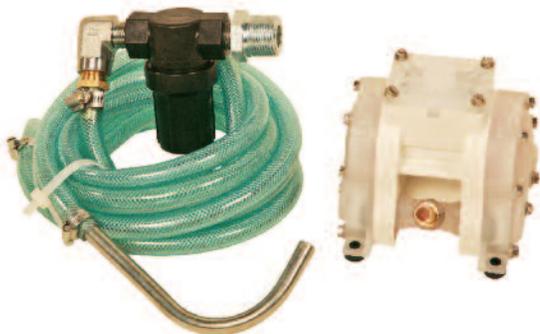
Same as P/N 42070 above except has an on board 3/8" Double Diaphragm Pump and 6' discharge hose with curved spout. Flow rate of 5 GPM @ 100 PSI will empty full drain in less than 5 minutes. Includes 'T' strainer to protect pump.



"T" Strainer with 30 Mesh Screen

P/N **950004**

Evac kit only. 3/8" Double Diaphragm Pump, mounting hardware, 'T' strainer and 6' discharge hose with curved spout. Flow rate of 5 GPM @ 100 PSI will empty full drain in less than 5 minutes.



Male Dry Break Nipples:

- P/N **900291** 1/2" NPTF nipple
- P/N **900295** 3/4" NPTF nipple
- P/N **900293** 1" NPTF nipple



Female Dry Break Couplers:

- P/N **900290** 1/2" NPTF coupler
- P/N **900294** 3/4" NPTF coupler
- P/N **900292** 1" NPTF coupler



P/N **950093**

1/4 HP, 115 VAC Electric Pump Kit with inlet screen. Pump is rated at 7 GPM and will empty full drain in less than 4 minutes.



P/N **950092**

1/2" Double Diaphragm Pump Kit with wall mounting bracket, 1/2" x 6' suction hose, 1/2" x 2' discharge hose, air filter regulator w/gauge, 3/8" x 6' air hose and 1/4" air coupler set and 1/2" dry break coupler set. Used to quickly empty low profile oil drain in less than 3 minutes (approximately 10 GPM at 100 PSI).



P/N **950095**

3/4" Double Diaphragm Pump Kit, same as P/N 950092 above, except includes 3/4" suction hose, discharge hose and 3/4" dry break coupler set.

USED OIL DRAINS



P/N 2400-20J

8 gallon capacity Oil Drain with translucent body to allow easy viewing of oil level. Height is adjustable from 48" to 71". Hand grips are provided on top and bottom of container for convenient emptying by hand. Unit is supplied with four ball bearing casters for mobility.



P/N 2400-37

Low-Boy Oil Drain is constructed of heavy-duty polyethylene that will not rust or dent. Used oil is emptied with a 115 VAC electric pump, unit rolls easily on 4 lubricated recessed casters. Overall dimensions are 8" H x 25" W x 46" L and has a 17 gallon capacity.

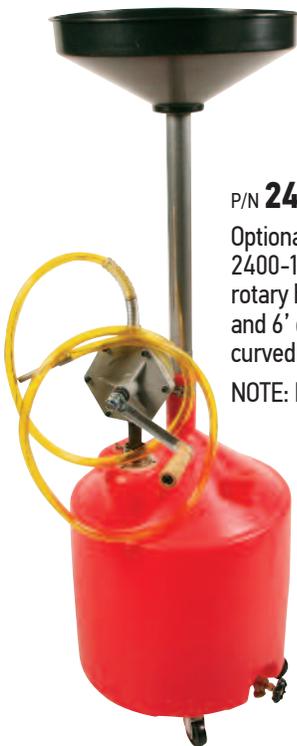
P/N 2400-19J

18 Gallon Oil Drain features a translucent polyethylene body to allow easy viewing of oil level. 18" funnel height is adjustable from 48" to 71" and is supplied with ball bearing casters for mobility. Unit may be emptied via 3/4" drain valve, by hand via spout or by optional oil drain pump kit, P/N 2400-27.



P/N 2400-18J

Oversized Drain Pan fits 8 and 18 gallon drains shown, 24" W x 37" L, constructed of heavy duty polyethylene.



P/N 2400-27

Optional oil drain kit for use with 2400-19J oil drain. Kit includes rotary hand pump, suction tube and 6' discharge hose with curved spout.

NOTE: Drain not included.

P/N 2400-27 shown with 18 gallon drain P/N 2400-19J



P/N 42075

Rolling Oil Drain Pan is fabricated from 14 gauge welded steel with a capacity of 34 gallons. Rollers have ball bearing action for smooth operation and are adjustable from 30" to 44" wide to fit most pit systems. Has utility shelf area, removable grill and interior baffle to reduce sloshing. Supplied with front and rear 1/2" NPTF drain fittings.

USED OIL TANKS

P/N 901076-CH

300 Gallon Used Oil Tank for bulk storage, has convenient hatch opening with cover to allow filter elements to be drained prior to disposal. Hatch opening is also handy for emptying small containers of used oil. Tank has two 2" bung openings along with a 1" drain.

Dimensions: 37.5" dia. x 63" long x 45" max height at chute handle. Chute opening, 21½" x 14¼" x 6¾" deep.



P/N 901076-12

Used Oil Pump/Tank kit includes 300 gallon chute tank P/N 901076-CH shown above along with a 3/4" double diaphragm pump, 3/4" x 12' suction hose with dry break disconnect and 4 way valve system that allows the operator to evacuate portable oil drains via the suction valve position, or empty the tank by simply selecting the discharge valve position on the 4 way valve. A tank level gauge is also included to allow monitoring of fluid level along with an air filter/regulator to control pumping rate.

Dimensions: 37.5" dia x 63" long x 58" max height at pump.



P/N 950027-55

3/4" D.D. Pump w/vertical inlet manifold kit to fit 55 gallon drum. Kit includes "close" nipple, suction pipe and double tap with 3/8" return port for use with thermal expansion valve kit.

P/N 950027-275

3/4" D.D. Pump w/vertical inlet manifold to fit 275 gallon tank. Has 44" long suction pipe, "close" nipple and double tap with 3/8" return port for use with thermal expansion valve kit. Schedule 80 PVC suction pipe can easily be trimmed to fit shorter tank depths.



P/N 970023-225

225 gallon bench tank with 3/4" double diaphragm pump and 4 way valve system can be used to evacuate portable oil drains in the suction valve position (fills the tank) and then the tank can be emptied by positioning the valve to the discharge position. System includes an air filter/regulator, 3/4" x 12' suction/discharge hose with dry break disconnect, tank level gauge and lockable fill cap. The bench tank provides a convenient work surface in shops where space is a premium.

Dimensions: 48" x 33" x 39" H

TWO WAY OIL TRANSFER

P/N 51009C-S16

Convenient transfer cart allows you to quickly and easily extract used engine oil, gear oil, hydraulic fluid, antifreeze or other compatible fluids from engines, gear boxes, sumps or similar containers and transfer it to this large 75 gallon steel portable tank. The heavy duty 4 wheel cart provides portability of the collected fluid which can then be conveniently transferred from the portable 75 gallon tank by a simple turn of the handle on the 4 way reversing valve.

P/N 51009C-S17

Same as P/N 51009C-S16 except that this kit replaces the 75 gallon tank with a larger 95 gallon tank to provide added capacity.



Closeup of pump and regulator.



SPILL CONTAINMENT PANS FOR 55 GALLON DRUMS

P/N 42073

These modular spill containment pans are injection molded polyethylene which makes them strong and durable. They can be used individually or easily connected to accommodate any number of drums. Each pan holds up to 60.5 gallons and incorporate forklift/pallet jack pockets to allow easy movement.

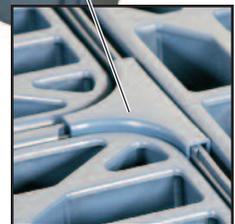
Grates are removable to allow compact stacking for storage when not in use.

Dimensions: 52" x 26.4" x 16.5" H, weight: 47 lb.



P/N 42073-01

A Tripod cap is used to hide the small space between pans when three pans are being connected together. These caps are used to improve appearance and housekeeping of connected pan systems and are not functionally required.



P/N 42073-02

A Quapod cap is used to hide the small space between pans when four pans are being connected together. These caps are used to improve appearance and housekeeping of connected pan systems and are not functionally required.



OIL EXTRACTORS

These fluid extractors are a reliable and efficient method for removing fluids from most any engine, transmission, differential, transfer case or gearbox. They are extremely easy to operate and maintain and are ideal for use with automobiles, trucks, tractors, farm machinery, marine engines, forklifts, industrial machinery and various other small engines. A shop air supply at approximately 100 PSI @ 15 CFM is all that

is required to create a vacuum. All extractors are supplied with a set of 6 flexible probes, 3 adapters (to fit Mercedes, BMW, Citroen and VW), 12' suction hose and 6' discharge hose (*not included in model 24224G*). Units have powder coat finish for durability and long life. **Not for use with flammable or explosive fluids.**



P/N 24270G

Fluid Extractor with 21-gallon capacity, has level gauge and 6' discharge hose. Unit is self-evacuating by pressurizing tank with approximately 10 PSI. Dimensions, 18" W x 21" D x 39" H, empty weight 70 pounds.

NOTE: Not for use with brake fluid, flammable or explosive fluids.



P/N 24224G

Fluid Extractor with 6-gallon tank capacity. This unit is emptied manually by lifting and tipping unit. Has wheels and handle for easy mobility. Dimensions, 13" W x 11" D x 37" H, empty weight 31 pounds.

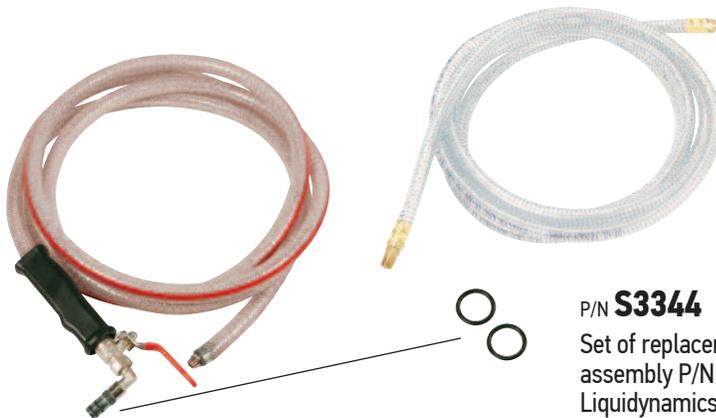


P/N 24271G

Fluid Extractor with 21-gallon capacity, supplied with 2 gallon transparent bowl to allow operator to check quantity and quality of oil prior to discharging into tank below. Dimensions, 18" W x 21" D x 56" H, empty weight 85 pounds.

P/N S3331

Replacement suction hose assembly for use on all Liquidynamics oil extractors. Includes 3/8" x 12' wire reinforced hose, handle, ball valve and suction fitting complete with 'O' rings.



P/N 900212

Replacement suction hose, 3/8" x 12', wire reinforced. For use with P/Ns 24224T, 24270, 24271, 24272 and 24273 extractors.

P/N S3344

Set of replacement 'O' rings to fit suction probe assembly P/N S3331. For use on all Liquidynamics oil extractors.



OIL EXTRACTORS

P/N **24272G**

Combination extractor and oil drain with 21-gallon tank capacity. Used oil is discharged by pressurizing tank to approximately 10 PSI. Comes complete with a set of 6 flexible probes and 3 adapters. Maximum drain pan extension height is 64". Dimensions, 18" W x 21" D x 46" H minimum, empty weight 84 pounds.

P/N **24273G**

Combination extractor and oil drain with 2 gallon transparent bowl. Has 21-gallon tank capacity and is supplied complete with a set of 6 flexible probes and 3 adapters. Maximum drain pan extension height is 64". Dimensions, 18" W x 21" D x 56" H minimum, empty weight 91 pounds.

NOTE: Not for use with brake fluid, flammable or explosive fluids.

P/N **26265G**

This 31 gallon capacity extractor/drain features dual arm cantilevers that provide stability and rigidity for the large 13 gallon capacity drain pan. A cantilever arm extension of 6' provides lots of flexibility in positioning the drain pan under large vehicles such as trucks, tractors and other high ground clearance vehicles. Drain pan height (including wheels) is 9½". Fluid in the drain pan is easily evacuated by opening the suction valve located on the side of the collection tank and is easily emptied by pressurizing the tank to approximately 10 PSI and discharging via the 6' discharge hose. This extractor/drain can also be used as a normal fluid extractor by using the provided suction probes. Once a vacuum has been established in the collection tank, you simply insert one of the suction probes into the dip stick or gear box opening and suck the oil out. This works best with warm/hot oil, you should always use the largest diameter and shortest length probe possible to speed the evacuation process.

P/N 26265G shown with dual arm cantilever extended.

P/N **26114G**

Single arm cantilever extractor/drain with 23 gallon tank capacity, 3½ gallon pan capacity has a 5½' cantilever arm extension to allow maximum flexibility in positioning underneath vehicle drain plugs. Drain pan height (including wheels) is 4¾" which easily fits under most vehicles. Fluid in the drain pan is easily evacuated by opening the suction valve located on the side of the tank. This extractor may also be used as a normal extractor via use of suction probes provided.

OIL EXTRACTOR ACCESSORIES

P/N **24304**
Flexible Probe 0.20" (5 mm) Dia., 27½" (700 mm) Length

P/N **24305**
Metal Probe 0.20" (5 mm) Dia., 27½" (700 mm) Length

P/N **24316**
Flexible Probe 0.24" (6 mm) Dia., 27½" (700 mm) Length

P/N **24306**
Metal Probe 0.24" (6 mm) Dia., 27½" (700 mm) Length

P/N **24307**
Flexible Probe 0.28" (7 mm) Dia., 39.4" (1000 mm), Length

P/N **24308**
Flexible Probe 0.31 (8 mm) Dia., 27½" (700 mm) Length

P/N **24310**
Flexible Probe 0.20" (5 mm) Dia., 59" (1500 mm) Length

P/N **24426**
Flexible Probe 0.24" (6 mm) Dia., 59" (1500 mm) Length

P/N **24427**
Flexible Probe 0.28" (7 mm) Dia., 59" (1500 mm) Length

P/N **24428**
Flexible Probe 0.31" (8 mm) Dia., 59" (1500 mm) Length

P/N **24450**
Flexible Probe 0.47" (12 mm) Dia., 27½" (700 mm) Length



P/N **950054**
Probe Container
Kit with Wall
Mount Bracket

P/N **950050**
Kit of probes includes:

- P/N 24304 Flexible Probe
- P/N 24305 Metal Probe
- P/N 24316 Flexible Probe
- P/N 24306 Metal Probe
- P/N 24307 Flexible Probe
- P/N 24308 Flexible Probe

TANK MONITORING

High/Low Tank Alarm

P/N **100550**

Self contained tank monitor designed for use on single or double wall aboveground tanks. Float sensor can easily be adjusted for sensor depth from 2" to 10" and may be used to monitor interstitial space of double walled tanks. When activated to an alarm condition, the alarm sounds a 103 decibel siren for up to 4 days with a fresh 9 volt battery. An optional transformer, P/N 100556 may be connected to eliminate battery operation. Intended for indoor use.



Air Shutoff Valve

P/N **100552**

Air Shutoff Valve for high tank level conditions. Operates mechanically without any power supply, ensuring positive air pump shutoff. Has operating pressure range of 50 to 150 PSI.



Transformer

P/N **100556**

12 VDC Transformer has permanent mounting screw fitting to ensure secure connection to 115 VAC outlet. Unit is self re-setting if overloaded and is UL listed. For use with P/N 100550.

P/N **100551**

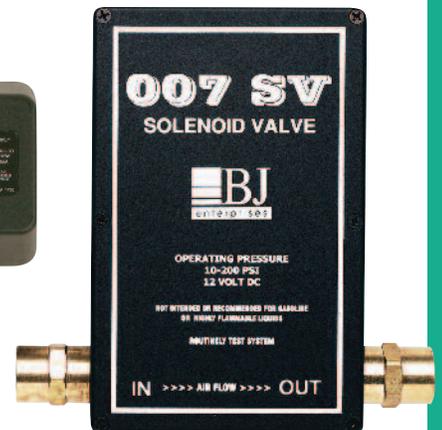
This three piece package will monitor either a high or low tank level. When the preset float is activated, a 103 decibel siren will sound and a strobe light will flash and activate an optional solenoid, P/N 100554L, if installed. The control panel is mounted indoors while the remote sensor may be mounted outdoors and fits a standard 2" bung opening. System can drive up to 10 solenoid valves, P/N 100554, and also includes a 12 VDC UL transformer.



Solenoid Valve

P/N **100554L**

Low voltage solenoid valve for use with P/N 100551 Tank Monitor, to shut off pump air supply when in the alarm condition. May be located up to 350' away from P/N 100551 Tank Monitor. Has rugged die cast aluminum housing and includes transformer.



Level Gauges:

Simple, direct mechanical action ensures reliability and high visibility. These gauges are available for tanks up to 12 ft. deep and can be used when mounting close to a tank wall.

Contact LiquidDynamics for other sizes.

P/N **901053**

Tank Gauge for 275 Gallon Oval Tank

P/N **901057**

Tank Gauge for 33" Deep Bench Tanks

P/N **901058**

Tank Gauge for 45½" Deep 500 Gallon Round Tanks

P/N **901056**

Tank Gauge for 60" Deep Tower Tank and 275 Gallon Oval Vertical

P/N **901058-38**

Tank Gauge for 38" Deep 300 Gallon Round Tank

P/N **901051**

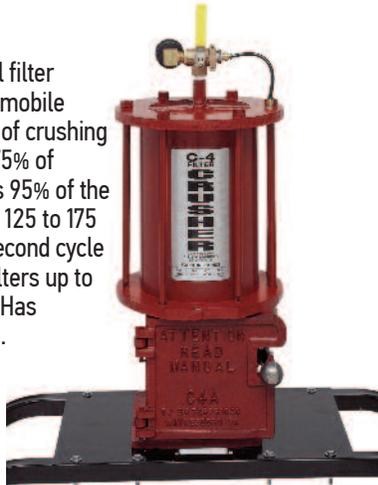
55 Gallon Drum Gauge, fits ¾" opening



OIL FILTER CRUSHERS

P/N **830151** MODEL C-4

Economical pneumatic oil filter crusher for use with automobile filters. Unit has four tons of crushing force, reduces filters by 75% of original size and removes 95% of the free flowing oil. Requires 125 to 175 PSI air pressure with 5 second cycle time. Chamber accepts filters up to 7½" tall and 6" diameter. Has 3/4"NPT drain connection.



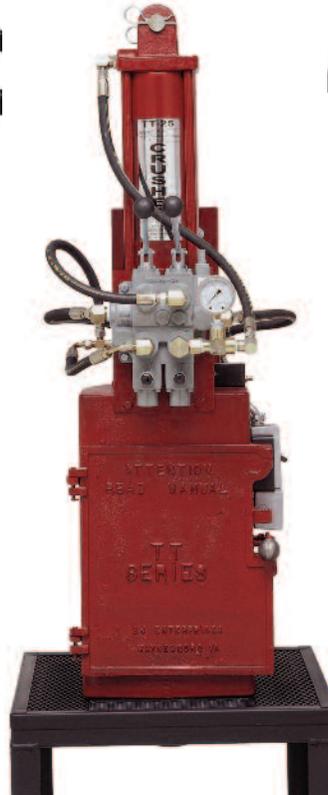
P/N **830152** MODEL C-6

This pneumatic crusher is ideal for use with SUV, automobile and light truck oil filters. It has 6 tons of crushing force with a chamber size to accept filters up to 10" tall and 7" in diameter.



P/N **830153** MODEL TT-12

Pneumatic oil filter crusher with 10 tons of crushing force, ideal for use with tractor trailer and truck filters. Will accept filters up to 17" tall and 8" in diameter or 4 automobile filters.



P/N **830154** MODEL TT-25EH

230 VAC Electric driven hydraulic oil filter crusher generates 25 tons of crushing force. Chamber will accept filters up to 16½" tall and 8" in diameter. Provides a smooth and constant crushing, action cycle time is 55 seconds and is ideal for use with tractor trailer filters.

P/N **830160**

Automotive filter crusher stand for use with models C-4 and C-6 crushers. Dimensions are 36" x 36" x 38" tall.



P/N **830161**

Truck filter crusher stand is constructed from industrial grade steel with a drain shelf for storing uncrushed filters. Has a 2" NPT drain to allow plumbing to storage vessel. This stand can be used with all four crushers shown above and may be secured to the floor.



OIL FILTER CRUSHERS

Air over hydraulic filter crushers for use with automotive and heavy duty truck type filters. Heavy aluminum frame cabinet surrounds the high pressure hydraulic hose, shielding components from damage and for added personal safety. Unitized construction allows easy access for maintenance while

the specially designed door channel prevents leakage, keeping oil in the chamber and not on the floor.

It is easy to operate, load the filter and close the door to activate the crushing cycle of approximately 55 seconds. Specifications for the two available models are shown below.

P/N 830151D

Oil Filter Crusher for use with automotive type filters. Has 7½" filter height capacity and generates 10 tons of crushing force. Operates on shop air with the use of an optional 1/4" air filter/regulator P/N 540201-G



P/N 830163D

Handy and compact wall bracket mount for use with the Automotive Filter Crusher, P/N 830151D. Wall anchors not included.



P/N 830153D

Oil Filter Crusher for use with heavy duty truck filters up to 13" tall and 6" diameter. Generates 15 tons of crushing force therefore reducing filter size by 75% and removing over 95% of the residual oil. Filter crushers require the use of an optional 1/4" air filter/regulator P/N 540201-G.

P/N 830160D

Compact floor stand for use with either the automotive or truck filter crusher. Stand is sized to accommodate a 5 gallon pail and measures 16"W x 18"D x 31"H.



Specifications:	P/N 830151D	P/N 830153D
Height	28½"	40"
Width	12¾"	12¾"
Max Filter Height	7½"	13"
Max Filter Diameter	6"	6"
Crushing Force	10 Tons	15 Tons
Pump Type	Air/Hydraulic	Air/Hydraulic



P/N 830161D

Full sized floor stand designed to accommodate a 16 gallon drum and support the automotive or truck oil filter crushers. Measures 23" W x 23" D x 36" H.



P/N 830164

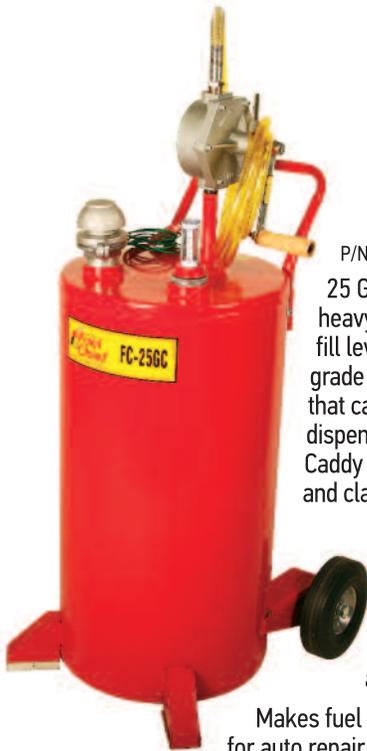
Filter Crusher Tank Mount Kit allows filter crushers, P/N 830151D or 830153D, to be mounted onto bulk storage tank. Crushed filters drain directly into storage tank eliminating need to transfer used oil from drums or pails. Includes all necessary hardware to mount filter crushers onto tank.

P/N 830162D

Deluxe floor stand includes an area to drain used filters prior to crushing. Designed for use with either the automotive or truck filter crushers. Will accommodate a 16 gallon drum. Measures 28" W x 23" D x 37" H.



FUEL HANDLING



P/N **560203**

25 Gallon Gas Caddy features heavy duty metal construction with fill level gauge and an industrial grade two-way rotary hand pump that can be used to siphon or dispense gasoline or diesel fuel. The Caddy is supplied with a ground wire and clamp, fire-screened vent and filler neck combination and a set of decals for contents identification.

This Gas Caddy complies with OSHA guidelines and is FM approved.

Makes fuel transfer safe and easy. Ideal for auto repair shops, motorcycle shops, salvage yards and marinas where fuel tanks need to be drained before repair or removal.

Dimensions: 46" H (with pump) x 21" W x 21" D



P/N **560205**

This heavy duty Gas Caddy provides two way pumping capability which allows it to be used for fuel transfer as well as siphoning. The pump is conveniently located at the top edge of the Gas Caddy and a vent located at the top center allows air in or/out as the fluid is discharged or pumped into the Caddy. This Gas Caddy is rotationally molded from high strength, cross linked, polyethylene and features an integral handle which also serves as a secure rest when the caddy is lying down. Two 10" semi-pneumatic wheels provide easy movement over most any surface. The Caddy is supplied with a heavy duty rotary hand pump and 3/4" x 10' discharge hose.

P/N **560207**

This economical 25 Gallon Gas Caddy is designed for fuel storage and transfer via gravity flow and provides a safe and easy way to fuel watercraft, ATV's, lawn and other motorized equipment. It is constructed of high strength cross linked polyethylene and features a molded-in handle which also serves as a secure rest when the unit is being transported lying down. 10" semi-pneumatic wheels allow easy movement over almost any surface. Caddy includes a 3/4" x 10' discharge hose and heavy duty spring loaded nozzle.



P/N **560204**

Heavy duty gravity flow gas caddy is perfect for fuel storage and transfer via gravity flow providing a safe and reliable way to refuel watercraft, ATV's, lawn and other motorized equipment. This Gas Caddy is rotationally molded from high strength, cross linked, polyethylene and features an integral handle which also serves as a secure rest when the gas caddy is being transported lying down. Two 10" semi-pneumatic wheels provide easy movement over

most any surface. Caddy is supplied with a 3/4" x 10' discharge hose and heavy duty spring loaded nozzle.

P/N **560208**

Two way pumping capability of this 25 gallon Gas Caddy allows it to be used for fuel transfer as well as siphoning. The unit is constructed of high strength, cross linked polyethylene for excellent durability and features a molded-in handle which also serves as a secure rest when in the horizontal position. 10" semi-pneumatic wheels allow easy movement over almost any surface. Caddy comes with heavy duty hand pump for siphoning or dispensing and includes 3/4" x 10' hose and spout.



FUEL HANDLING – HAND PUMPS

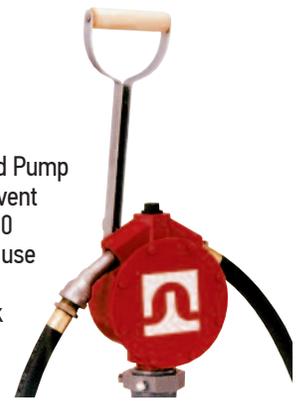
MODEL **FR31** P/N 560028

Heavy Cast Iron quart stroke Pump that reliably and accurately dispenses one quart with each handle rotation. Rack and pinion design allows for easy calibration and provision for padlock feature. Includes swing return drain tube and telescoping suction pipe.



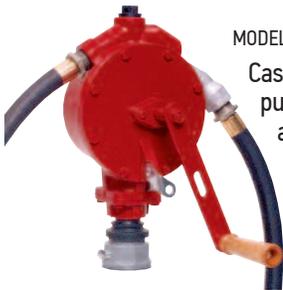
MODEL **FR152** P/N 560000

Lightweight cast aluminum Piston Hand Pump uses a stainless steel inner liner to prevent wear of cylinder. Pump delivers up to 20 gallons per 100 strokes and is ideal for use with gasoline, diesel fuel and light oils. Includes anti-siphoning device, padlock feature, bung adapter and telescoping suction pipe.



MODEL **FR112** P/N 560003

Cast aluminum Rotary Vane Pump suitable for pumping medium viscosity liquids as well as oils, gasoline and diesel fuels. Rotary action allows smooth, continuous fluid transfer at up to 10 gallons per 100 revolutions. Complete with telescoping suction pipe, bung adapter, 8 ft. nitrile hose with nozzle and vacuum breaker to prevent siphoning.



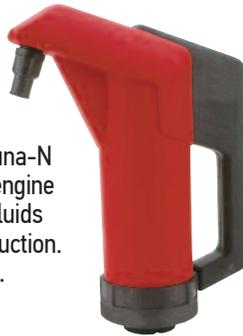
MODEL **MA-5R** P/N 10005R

Cast iron Rotary Hand Pump, two vane construction, for use with lubricating oils. Comes complete with 2" bung adapter and three piece steel suction pipe. Not recommended for use with gasoline. Approx. 20 revolutions/gal.



MODEL **MA-20** P/N 560008

Polypropylene Piston Pump uses Buna-N seals for transfer of fluids such as engine oil, gear oil, antifreeze and similar fluids compatible with materials of construction. Fits drums up to 55 gallons. Approx. 12 strokes/gal.



P/N **10015**

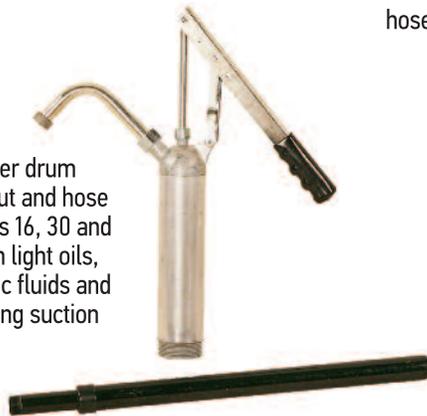
High Flow rotary hand pump discharges approximately 1 quart per revolution and can empty a 55 gallon drum in a matter of minutes. Pump body is constructed of lightweight aluminum with gear driven impellers and Nitrile seals which makes this pump ideal for transferring larger quantities of lightweight oils, hydraulic fluids, transmission fluid, antifreeze and diesel fuel.

Pump is supplied with bung adapter, suction pipe, inlet strainer and 1" x 6' oil discharge hose with nozzle.



MODEL **MA-16** P/N 10016

Heavy duty hand operated lever drum pump, with high volume output and hose thread fitting at discharge. Fits 16, 30 and 55 gallon drums. For use with light oils, ATF, 100% antifreeze, hydraulic fluids and diesel fuel. Includes telescoping suction pipe. Approx. 12 strokes/gal.



FUEL HANDLING - 12/24 VDC

MODEL **FR1210G** P/N 560012
12 VDC, 15 GPM Pump Kit with 12' Hose and Manual Nozzle
 Up to 15 GPM, Explosion proof UL/cUL listed 1/4 HP motor, has built in strainer, 2" NPTM threaded base to fit standard 2" bungs, 2 year warranty.
 Pump kit is compatible with diesel fuel, gasoline, kerosene, E15 and Biodiesel up to B20.



MODEL **FR3210B** P/N 560065
12 VDC, 25 GPM Pump Kit with 18' Hose and Ultra High Flow Automatic Nozzle
 Highest flow rate available in a 12 VDC pump (will achieve 22.5 GPM with the included auto nozzle). Heavy duty cast iron construction has 30 minute duty cycle, lockable nozzle, self-priming up to 12'.



MODEL **FR1210GA** P/N 560012A
12 VDC, 15 GPM Pump Kit with 12' Hose and Automatic Nozzle
 Same as FR1210G above except has automatic shutoff nozzle



MODEL **FR2410G** P/N 560017
24 VDC, 15 GPM Pump Kit with 12' Hose and Manual Nozzle
 Up to 15 GPM flow rate has explosion proof UL/cUL, ANZEx listed motor and is intended for pumping diesel fuel, gasoline or kerosene. Heavy duty cast iron construction has 2" NPTM threaded base, built in strainer and comes with a 2 year warranty.



MODEL **FR4210G** P/N 560062
12 VDC, 20 GPM Pump with 12' Hose and Manual Nozzle
 Contractor grade pump kit has flow rate up to 20 GPM with built in check valve and strainer, UL listed motor, 2 year warranty, 2" NPTM threaded base.
 Pump kit is compatible with diesel fuel, gasoline, kerosene, E15 and Biodiesel up to B20.



MODEL **FR4410G** P/N 560018
24 VDC, 20 GPM Pump Kit with 12' Hose and Manual Nozzle
 Contractor grade, heavy duty cast iron construction has ATEX and ANZEx approved motor pumping diesel fuel, gasoline, E15, kerosene and biodiesel up to B20. 2" NPTM threaded base for tank mounting. Has built in strainer and comes with a 2 year warranty.



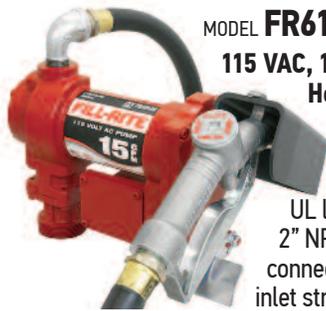
MODEL **FR4210GB** P/N 560062A
12 VDC, 20 GPM Pump Kit with 12' Hose and Ultra High Flow Automatic Nozzle
 Same as FR4210G above, except has Ultra High Flow Automatic shutoff nozzle



MODEL **BD1210G** P/N 560012BD
12 VDC, 15 GPM for Biodiesel with 12' Hose and Manual Nozzle
 Complete pumping system for Biodiesel Fuels, B20 to B100. Pump has 2" NPTM threaded base to allow tank mounting, includes built in strainer and 2 year warranty.



FUEL HANDLING – 115/230 VAC



MODEL **FR610G** P/N 560026

115 VAC, 15 GPM Pump Kit with 12' Hose and Manual Nozzle

Compact pump kit for use with diesel fuel, gasoline, kerosene, E15 and biodiesel up to B20. Has UL listed 1/4 HP explosion proof motor, 2" NPTM threaded base to allow tank connection. Includes check valve and inlet strainer and uses carbon vanes with iron rotor, 2 year warranty.



MODEL **FR610GA** P/N 560026A

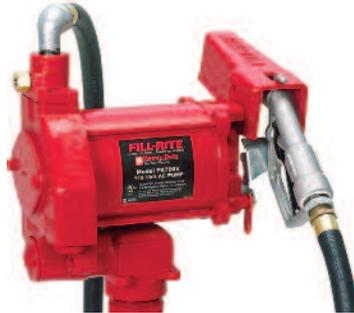
115 VAC, 15 GPM Pump Kit with 12' Hose and Automatic Nozzle

Same as P/N 560026 above, except has automatic shutoff nozzle.

MODEL **FR700V** P/N 560014

115/230 VAC, 18 GPM Pump Kit with 12' Hose and Manual Nozzle

Rugged, positive displacement, heavy duty pump has 1/3 HP UL listed explosion proof motor with sealed bearings, thermal overload protection and heavy duty switch. Pump is compatible for use with diesel fuel, gasoline, kerosene, E15 and biodiesel up to B20. 2" NPTM threads allows tank mounting, pump has automatic bypass, integral check valve and has 2 year warranty.



MODEL **FR700VA** P/N 560014A

115/230 VAC, 13 GPM Pump Kit with 12' Hose and Automatic Nozzle

Same as P/N 560014 above, except includes an automatic shutoff nozzle.

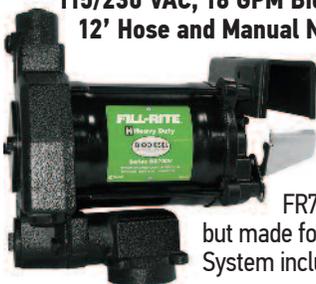
MODEL **FR700VN** P/N 560011

115/230 VAC, 20 GPM Pump Only

Same as P/N 560014 but does not include hose or nozzle – supplied as PUMP ONLY.

MODEL **BD700V** P/N 560014BD

115/230 VAC, 18 GPM Biodiesel Pump Kit with 12' Hose and Manual Nozzle

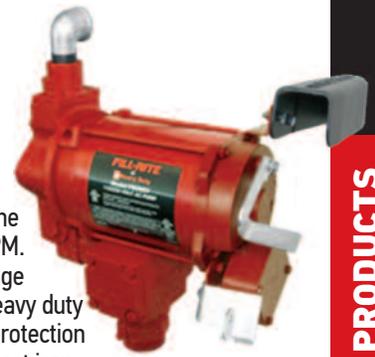


Complete pumping kit for Biodiesel Fuels B20 – B100. System has 1/3 HP UL/cUL listed pump and motor. This heavy duty pump has all the features included in the FR700VN (P/N 560011) described above, but made for use with B20 – B100 Biodiesel fuel. System includes 12' hose and manual nozzle.

MODEL **FR300VN** P/N 560042-A

115/230 VAC, 20 GPM Ultra High Flow – Pump Only

High flow, 1/2 HP, AC utility rotary vane pump has an open flow rate of 20 GPM. This pump is UL/cUL listed dual voltage pump, motor has sealed bearings, heavy duty on/off switch and thermal overload protection and built in junction box. Housing is cast iron with iron rotor and carbon vanes, pump also incorporates a check valve, pressure relief valve and strainer. 2" NPTM threaded bung connection. Pump carries a 2 year warranty.



MODEL **FR310VN** P/N 560027-A

115/230 VAC, 35 GPM Ultra High Flow – Pump Only

Ultra high flow pump has 3/4 HP UL/cUL listed explosion proof motor provides flow rates up to 35 GPM. This pump provides long life, has sealed bearings, heavy duty on/off switch and thermal overload protection. Cast iron housing incorporates a built in junction box and uses an iron rotor with carbon vanes, also has a check valve, strainer and automatic bypass valve. Bung connection is 2" NPTM and unit carries a 2 year warranty.



MODEL **FR310VB** P/N 560027

115/230 VAC, 35 GPM Ultra High Flow Pump Kit with 18' Hose and Ultra High Flow Automatic Nozzle

Same as P/N 560027-A above except this system includes an Ultra High Flow automatic shutoff nozzle to maximize flow rate while providing the convenience of an automatic shutoff pump system.



MODEL **BD310VN** P/N 560027BD

115/230 VAC, 35 GPM Ultra High Flow Biodiesel – Pump Only

Same as P/N 560027-A above except this pump is designed for use with Biodiesel Fuels B20 – B100. This is a pump only, hose and nozzle NOT included.



P/N **560091-DC**

12 VDC transfer pump for use with gasoline, diesel fuel and kerosene is UL and CSA approved. Pump kit is supplied with 13 GPM pump w/1" NPT inlet, automatic shutoff nozzle, nozzle holder, easily accessible inlet filter screen, 3/4" x 13' hose and adjustable suction pipe (43" max. length) and power supply cable.

P/N **560091-AC**

Same as P/N 560091-DC except has 115 VAC motor.



FUEL HANDLING – PUMP/METER COMBO KITS

MODEL **FR1211G** P/N 560060

12 DC, 15 GPM Pump/Meter Combo Kit

This 12 volt pump kit for use with diesel fuel, gasoline, kerosene, E15 and Biodiesel up to B20 includes a completely assembled system with 2 year warranty and includes;

- FR1200 series pump
- FR807C mechanical meter
- Manual nozzle
- 3/4" x 12' hose with static wire



MODEL **FR711VA** P/N 560020AH

115/230 VAC, 18 GPM Pump/Meter Combo Kit

High flow pump and meter kit is completely assembled to allow quick and easy installation of this rugged system. System includes the following components;

- FR700 series 1/3 HP pump
- FR901 meter, gallon calibration
- High flow 1" automatic shutoff nozzle
- 1" x 18' hose with static wire



MODEL **FR4211G** P/N 560064

12 VDC, 20 GPM Pump/Meter Combo Kit

Contractor grade 12 VDC high flow pump kit for use with diesel fuel, gasoline, E15 and Biodiesel up to B20 is completely assembled and includes the following items and has 2 year warranty and includes;

- FR4200 series pump
- FR901 mechanical meter, gallon calibration
- Manual nozzle
- 1" x 12' hose with static wire



MODEL **FR311VN** P/N 560022

115/230 VAC, 35 GPM Pump/Meter Kit

Ultra high flow pump and meter kit provides a convenient package for easy installation and rapid fuel dispensing, system includes the following;

- FR300 series pump
- FR901 mechanical meter, gallon calibration
- Hose and nozzle NOT included

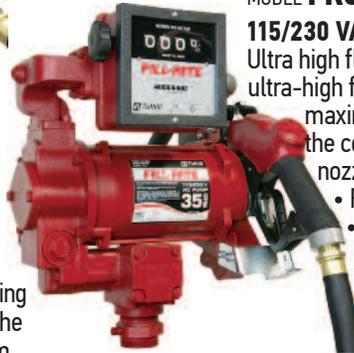


MODEL **FR311VB** P/N 560021

115/230 VAC, 30 GPM Pump/Meter Combo Kit

Ultra high flow pump and meter kit includes an ultra-high flow automatic nozzle to achieve maximum flow capability while having the convenience on an automatic shutoff nozzle. System includes the following;

- FR300 series pump
- FR901 mechanical meter, gallon calibration
- 1" Ultra-High flow automatic shutoff nozzle
- 1" x 18' hose with static wire



MODEL **FR701V** P/N 560015

115/230 VAC, 15 GPM Pump/Meter Combo Kit

Conveniently assembled pump and meter kit provides pumping capability as well as fluid metering without the hassle of having to assemble the components yourself. Pump system is intended for use with diesel fuel, gasoline, E15 and Biodiesel up to B20. System has a 2 year warranty and includes following items;

- FR700 series 1/3 HP pump
- FR807C mechanical meter, gallon calibration
- Manual nozzle
- 3/4" x 12' hose with static wire



P/N **560092-DC**

12 VDC transfer pump for use with gasoline, diesel fuel and kerosene is UL and CSA approved. Pump kit is supplied with 13 GPM pump w/1" inlet, LM301 meter, automatic shutoff nozzle, nozzle holder, easily accessible inlet filter screen, 3/4" x 13' hose and adjustable suction pipe (43" max. length).

P/N **560092-AC**

Same as P/N 560092-DC except has 115 VAC motor

P/N **560092-ACF**

Same as P/N 560092-AC except includes Filter Adapter that attaches directly to pump discharge fitting and 30 micron water adsorption filter element.

P/N **560092-DCF**

Same as P/N 560092-DC except includes Filter Adapter that attaches directly to pump discharge fitting and 30 micron water adsorption filter element.



MODEL **FR701VA** P/N 560015A

115/230 VAC, 10.5 GPM Pump/Meter Combo Kit

Same as P/N 560015 except this system uses an automatic nozzle to provide the extra convenience of not having to manually hold the nozzle open while dispensing fuel.



FUEL HANDLING ACCESSORIES

MODEL **LM-301** P/N 100403

Economical nutating disc meter for use with fluids such as gasoline and diesel fuel. The large easy to read 3 digit mechanical display may be reset on either the left or the right side which allows more flexibility upon installation. The display orientation may be rotated in increments of 90 degrees to accommodate various plumbing requirements. Flow range is from 5 to 30 GPM with an accuracy to within $\pm 1\%$ and an operating pressure of 50 PSI. Maximum resettable batch total is 99.9 with five digit totalizer. Inlet and outlet are 1" NPTF. Not for gravity flow use.



MODEL **LM-401** P/N 100407

Four digit resettable batch total of 999.9 gallons allows fueling of large vehicles. Flow range and other specifications are same as model LM-301. Not for gravity flow use.



Turbine Meters

P/N **100392-UL**

In-line turbine meter with die cast aluminum body and polypropylene turbine has a flow range of 2 – 32 GPM with an accuracy of $\pm 1\%$ and $\pm 0.2\%$ repeatability. This meter is UL approved for use with Gasoline, Diesel Fuel and Kerosene and features a high contrast LCD display with a resettable 5 digit batch total and a 6 digit non-resettable cumulative total. Pressure loss is less than 0.4 PSI at 30 GPM. LCD display is rotatable to allow maximum connection flexibility, 1" NPTM x 1" NPTF connections



P/N **100392-NUL**

Same as P/N 100392-UL above, except meter is designed for use in applications where UL approval is not required (METER DOES NOT HAVE UL APPROVAL)

P/N **100392-P**

In line pulse generator has 1" NPTM x 1" NPTF inlet/outlet, die cast aluminum body with maximum 300 PSI operating pressure with a flow range of 2 – 30 GPM, provides 338 pulses per gallon via reed switch contact.



P/N **560050**

3/4" Inlet automatic unleaded fuel nozzle, UL listed.

MODEL **FR807CMK** P/N 560034-CMK

Three digit meter kit to fit standard duty pump Models FR1210G, FR2410G and FR610G.



MODEL **FR807C** P/N 560034

Industry standard nutating disc meter for use with gasoline, diesel fuel and similar fluids. Easy calibration allows accuracy of up to $\pm 1\%$. Flow range of 5 to 20 GPM via 3/4" NPTF ports, pressure rated to 50 PSI, 3 digit resettable total with 6 digit totalizer.



MODEL **FR806C** P/N 560034-V1

Same as P/N 560034 above except designed for use with gravity flow above ground tanks. Includes 1" NPTF inlet strainer.

MODEL **FR901** P/N 560001

High flow nutating disc meter with a flow range of 6 to 40 GPM and $\pm 2\%$ accuracy. Resettable batch total displays four digits.



P/N **560048**

3/4" manual nozzle with unleaded spout and hook, UL listed.



P/N **560052**

1" manual nozzle, diesel spout with hook, UL listed.

P/N **560051**

1" Inlet automatic diesel fuel nozzle, UL listed.



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26265G	.113	33267P-20CG	.93	47400	.72	500164	.91	540043	.10
30200	.57	33271	.93	47500	.72	500165	.91	540044	.10
30200-C	.54	33271P	.93	48002	.71	500166	.91	540045	.10
30200-S1	.54	33273-1	.100	48003	.71	500167	.91	540046	.10
30200-S10	.54	33273-1A	.100	49007	.77	500168	.91	540050	.10
30200-S11	.54	33273-2	.100	49008	.77	500172	.90	540060	.10

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540100-G	11	560042-A	121	70064	104	81281-10A	95	900262	60
540103	11	560048	123	70064	103	81281-15A	95	900265	60
540104-G	11	560050	123	70064	103	81281-20A	95	900266	27
540111	11	560051	123	70067	104	81291-10A	95	900266-BSP	27
540112-G	11	560052	123	70067	103	81291-15A	95	900267	90
540115-G	11	560060	122	70067	103	81291-20A	95	900268	27
540119-G	11	560062	120	70068	104	81300-xx	75	900268-BSP	27
540120-G	11	560062A	120	70068	103	81301-xx	75	900270	27
540200-G	11	560064	122	70068	103	81315-xx	75	900270-BSP	27
540201-G	11	560065	120	710100	102	81316-xx	75	900279-B-10	95
540202	11	560087	16	710101	102	81317-xx	75	900279-B-15	95
540203-G	11	560088	16	710102	102	81318-xx	75	900279-B-20	95
540204-G	11	560089	16	710103	102	82400-xx	75	900283	47
540205	11	560091-AC	121	710108	102	82410-xx	75	900284	60
540207-G	11	560091-DC	121	710109	102	82450-xx	75	900285	60
540208	11	560092-AC	122	710131	102	82460-xx	75	900286	60
540215-HP	11	560092-ACF	122	710132	102	830151	116	900287	60
540235	11	560092-DC	122	710133	102	830151D	117	900288	60
540300	11	560092-DCF	122	710134	102	830152	116	900289-S	40
540301	11	560101	58	71146	104	830153	116	900290	108
540302	11	560102	58	71150-xx	101	830153D	117	900290	13
540303	11	560203	118	71246-03	99	830154	116	900291	108
560000	119	560204	118	71246-05	99	830160	116	900291	13
560000	57	560205	118	71246-10	99	830160D	117	900292	108
560001	123	560207	118	71246-10W	99	830161	116	900292	13
560003	119	560208	118	71246-20	99	830161D	117	900293	108
560003	57	62101R-120	44	71250-xx	101	830162D	117	900293	13
560006	58	62101R-180	44	71460-4	98	830163D	117	900294	108
560006J	58	62101R-240	44	71460-6	98	830164	117	900294	13
560008	119	62101R-325	44	71460-8	98	88400	73	900295	108
560008	58	62101R-80	44	72101	102	88402	65	900295	13
560008V	58	62102R	44	72102	102	88403	72	900297	26
560011	121	62107R	44	72103	102	88403	65	900298	86
560012	120	70002	104	72110	102	88405	65	900298-A	86
560012A	120	70002	103	72111	102	88501-100L	64	900298-A-EZ	86
560012BD	120	70002	103	72112	102	900199	114	900298-EZ	86
560014	121	70003	104	810200	59	900210	114	900298M-A-EZ	86
560014A	121	70003	103	810201	59	900212	112	900298M-EZ	86
560014BD	121	70003	103	810202	59	900223	60	900299	60
560015	122	70004	104	810233	59	900226	59	900313	60
560015A	122	70004	103	810240	61	900227	59	900314	60
560017	120	70004	103	810241	61	900228	59	900323	60
560018	120	70005	104	810253	61	900229	59	900324	60
560019	58	70005	103	810254	61	900230	59	900325-100	13
560020AH	122	70005	103	810261	61	900230A	59	900327	60
560021	122	70019	104	810270	61	900231	60	900328	60
560022	122	70019	103	810271	61	900232	60	900342	60
560026	121	70019	103	810272	61	900233	59	900348	40
560026A	121	70061	104	81100-xx	74	900234	59	900349	40
560027	121	70061	103	81125-xx	74	900235	114	900351-16	13
560027-A	121	70061	103	81150-xx	74	900236	40	900352	40
560027BD	121	70062	104	81200-01A	27	900245	27	900360	60
560028	119	70062	103	81200-xx	74	900246	27	900361	60
560028	57	70062	103	81230A	27	900247	27	900365	60
560034	123	70063	104	81231A	27	900253	27	900365-B	9
560034-CMK	123	70063	103	81250-xx	74	900256	47	900366	60
560034-V1	123	70063	103	81260-xx	74	900257	47	900367	60

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900371	60	901053	47	950019	13	BD700V	121	MA-13BP	87
900372	59	901054	47	950020	13	BM03	19	MA-16	119
900375	60	901055	47	950022-16	13	BM08	19	MA-16	56
900376	60	901056	115	950022-275	13	BM15	19	MA-2	58
900377	60	901056	47	950022-330	13	BM19	19	MA-20	119
900382	60	901057	115	950022-55	13	BM19-BA	19	MA-20	58
900383	60	901057	47	950026	40	BM19-HM	19	MA-20V	58
900384	60	901058	115	950026A	40	BM19-RH	19	MA-2N	58
900385	60	901058	47	950027-275	110	BM20	19	MA-3	58
900386	60	901058-38	115	950027-275	13	BM20-BA	19	MA-31	58
900387	60	901058-38	47	950027-330	13	BM20-HM	19	MA-3J	58
900388	60	901060	46	950027-55	110	BM20-RH	19	MA-40	58
900389	60	901060V	46	950027-55	13	BM20G	19	MA-5R	119
900390	60	901061	46	950041	76	BP-11	87	MA-5R	56
900392	60	901061V	46	950042	76	FR112	119	MA-6	58
900393	60	901062	46	950043	76	FR112	57	MA-7	57
900394	60	901063	46	950047	10	FR1210G	120	MA-70	57
900396	60	901064	46	950047	8	FR1210GA	120	MA-9	56
900397	60	901068-UL	46	950049	13	FR1211G	122	MA-9T	56
900398	60	901069-P330	47	950050	114	FR152	119	RTT-1110	42
900399	60	901071	40	950051	13	FR152	57	RTT-1210	42
900401	60	901071-330	40	950053	46	FR2410G	120	RTT-1310	42
900402	60	901075	46	950053-A	46	FR300VN	121	RTT-1410	42
900404	60	901076-12	110	950054	114	FR31	119	RTT-1510	42
900405	60	901076-CH	110	950057	17	FR31	57	RTT-2000	43
900406	60	901076-CH	46	950060	49	FR310VB	121	RTT-2010	43
900417	60	901076-UL	46	950064	9	FR310VN	121	RTT-2050	43
900424-01	102	901111	101	950065	9	FR311VB	122	RTT-2100	43
900470	95	901946	47	950066	49	FR311VN	122	RTT-2200	43
900471	95	901948	47	950068	49	FR3210B	120	RTT-3000	43
900472	95	902010	76	950071-05	49	FR4210G	120	RTT-3100	43
900473	95	902011	76	950071-16	49	FR4210GB	120	RTT-3200	43
900474	95	902012	76	950071-30	49	FR4211G	122	RTT-4000	43
900475	95	902013	76	950071-55	49	FR4410G	120	RTT-4001	43
900476	95	902014	76	950073	49	FR610G	121	RTT-4002	43
900477	95	902015	76	950084	96	FR610GA	121	RTT-4003	43
900478	95	902016	76	950085	96	FR700V	121	RTT-4004	43
900479	95	902017	76	950091	76	FR700VA	121	RTT-4009	43
900480	95	902018	76	950092	108	FR700VN	121	RTT-4031	43
900480-CAP	95	902019	76	950093	108	FR701V	122	RTT-4033	43
900510	60	902020	76	950095	108	FR701VA	122	RTT-4036	43
900580	96	904001	47	950100	107	FR711VA	122	RTT-4040	43
900580A	96	904002	47	950101	107	FR806C	123	RTT-4041	43
900581	96	904003	47	950102	107	FR807C	123	RTT-4092	43
900581A	96	904005	56	950103	107	FR807CMK	123	RTT-4093	43
900787	60	950002	10	950111	29	FR901	123	RTT-4094	43
901002	48	950002	8	950112	29	LM-301	123	RTT-6220	42
901005	48	950003	13	970023-165	38	LM-401	123	RTT-6280	42
901006	48	950004	108	970023-225	110	MA-10	56	RTT-6320	42
901019A-XX	9	950006	48	970023-225	38	MA-10M	56	RTT-6330	42
901020A-XX	9	950007	48	970023-280	38	MA-10P	56	RTT-6333	42
901020A-XXA	9	950008	48	981001P	56	MA-11	87	RTT-6880	42
901021A-XX	9	950009	49	981001R	56	MA-11BP	87	S3331	112
901036	60	950010	61	BAD-62576-001	29	MA-12	56	S3344	112
901051	115	950012	48	BAD-62576-001-V1	29	MA-12-C	56		
901051	47	950017	106	BD1210G	120	MA-12-K	56		
901053	115	950017	105	BD310VN	121	MA-13	87		

GENERAL REFERENCE DATA

The general reference information provided on the following pages will familiarize you with the different viscosities of oil that are commonly handled in our industry. The “ISO Viscosity Grade Number Table” provides a list of common ISO grades and the viscosity ranges within each ISO grade.

The second chart is intended to give you an idea of some common fluid and material viscosities that will allow you to relate everyday materials to motor oils.

Generally, viscosity is a measure of a fluid's resistance to flow and can be measured in various different units such as centipoise (cPs), which is a measure of dynamic or absolute viscosity and

kinematic viscosity which is measured in units of centistoke (cSt) Kinematic viscosity is the ratio of absolute or dynamic viscosity to density and can be obtained by dividing the absolute viscosity of a fluid (cPs) by its density. An easy rule of thumb for typical oils, use a density of 0.90, therefore as an example if an ISO 100 oil (30 wt. engine oil) has an absolute viscosity of 267 cPs at 70° F, it would have a kinematic viscosity of 296.6 cSt.

Another common unit of measure for viscosity is Saybolt universal seconds (SUS or SSU), it is a measure of kinematic viscosity, it's the time that a volume of 60 cm³ of oil takes to flow through a calibrated tube at a controlled temperature.

ISO Viscosity Grade Number Table:

Viscosity range expressed in centistokes (cSt) at 40°C

ISO #	Mid-Point	Minimum	Maximum
2	2.2	1.98	2.42
3	3.2	2.88	3.52
5	4.6	4.14	5.06
7	6.8	6.12	7.48
10	10	9	11
15	15	13.5	16.5
22	22	19.8	24.2
32	32	28.8	35.2
46	46	41.4	50.6
68	68	61.2	74.8
100	100	90	110
150	150	135	165
220	220	198	242
320	320	288	352
460	460	414	506
680	680	612	748
1000	1000	900	1100
1500	1500	1350	1650

Approximate Viscosities of Common Materials

(At Room Temperature-70°F) *

Material	Viscosity in Centipoise
Water	1 cps
Milk	3 cps
SAE 10 Motor Oil	85-140 cps
SAE 20 Motor Oil	140-420 cps
SAE 30 Motor Oil	420-650 cps
SAE 40 Motor Oil	650-900 cps
Castrol Oil	1,000 cps
Karo Syrup	5,000 cps
Honey	10,000 cps
Chocolate	25,000 cps
Ketchup	50,000 cps
Mustard	70,000 cps
Sour Cream	100,000 cps
Peanut Butter	250,000 cps

GENERAL REFERENCE DATA

Viscosity Conversion Chart

Centipoise (CPS) or Millipascal (MPas)	Centistokes (cSt)	Saybolt Universal (SSU)	Centipoise (CPS) or Millipascal (MPas)	Centistokes (cSt)	Saybolt Universal (SSU)
0.9	1	31	1080	1200	5620
1.8	2	34	1170	1300	6100
3.6	4	38	1260	1400	6480
6.3	7	47	1350	1500	7000
9	10	60	1440	1600	7500
13.5	15	80	1530	1700	8000
18	20	100	1620	1800	8500
22.5	25	130	1710	1900	9000
27	30	160	1800	2000	9400
36	40	210	1890	2100	9850
45	50	260	1980	2200	10300
54	60	320	2070	2300	10750
63	70	370	2160	2400	11200
72	80	430	2250	2500	11600
81	90	480	2700	3000	14500
90	100	530	3150	3500	16500
108	120	580	3600	4000	18500
126	140	690	4050	4500	21000
144	160	790	4500	5000	23500
162	180	900	4950	5500	26000
180	200	1000	5400	6000	28000
198	220	1100	5850	6500	30000
216	240	1200	6300	7000	32500
234	260	1280	6750	7500	35000
252	280	1380	7200	8000	37500
270	300	1475	7650	8500	39500
288	320	1530	8100	9000	41080
306	340	1630	8550	9500	43000
324	360	1730	13500	15000	69400
342	380	1850	18000	20000	92500
360	400	1950	27000	30000	138500
378	420	2050	36000	40000	185000
396	440	2160	45000	50000	231000
414	460	2270	54000	60000	277500
432	480	2380	63000	70000	323500
450	500	2480	72000	80000	370000
495	550	2660	81000	90000	415500
540	600	2900	90000	100000	462000
630	700	3380	112500	125000	578000
720	800	3880	135000	150000	694000
810	900	4300	157500	175000	810000
900	1000	4600	180000	200000	925000
990	1100	5200			

GENERAL REFERENCE DATA

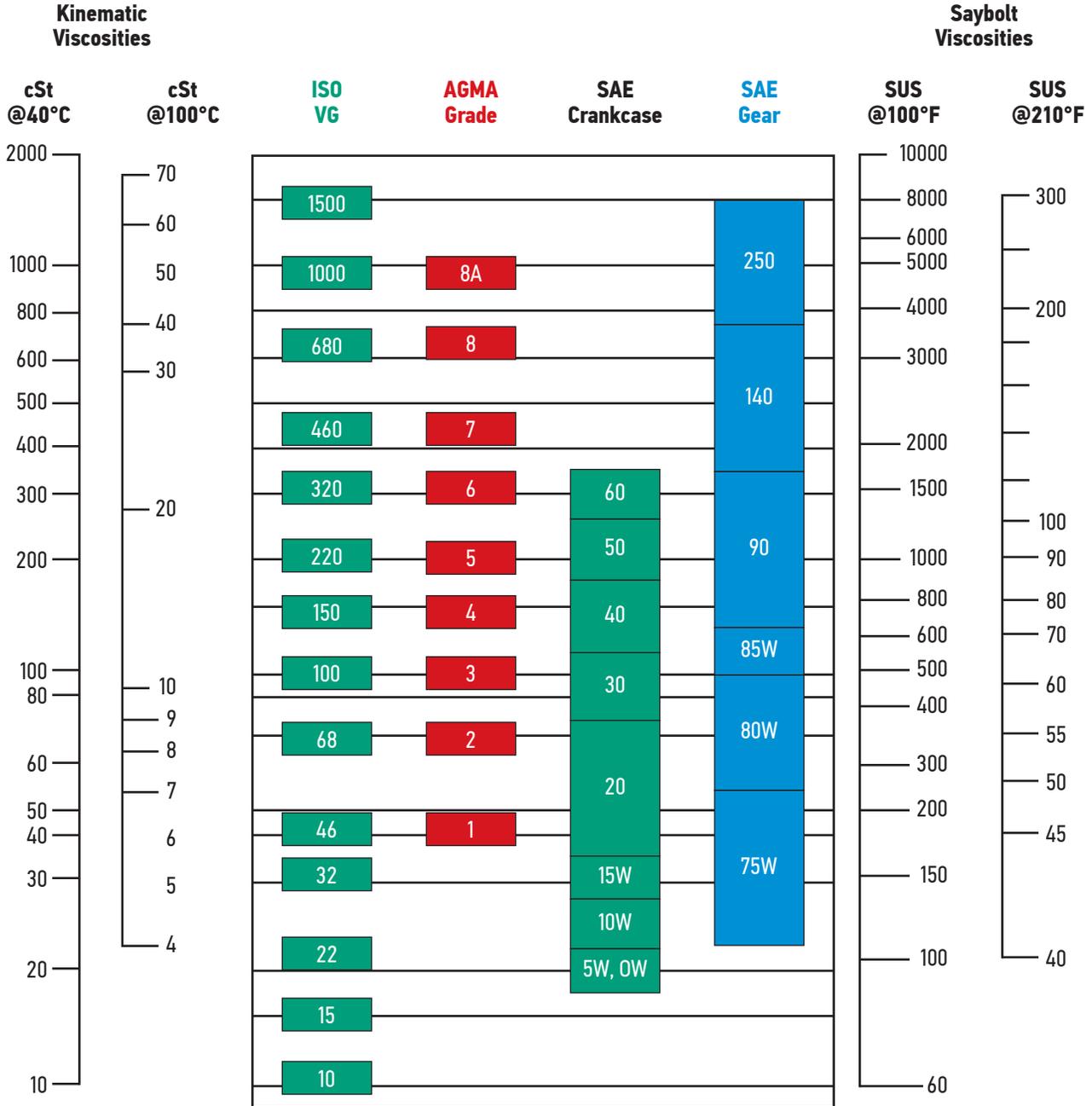
Viscosity Comparison Table

Due to the fact that there are number of differing Viscosity measuring standards it is sometimes confusing to determine what is the viscosity of fluid in a viscosity system of interest if the viscosity is quoted in units used in another viscosity system.

The chart below gives approximate equivalence of values for a typical conventional fluids.

REFERENCE

GENERAL REFERENCE DATA



GENERAL REFERENCE DATA

TUBING SIZE	WALL	O.D.	I.D.	AREA	WORKING PRESSURE	WEIGHT PER FT.	GALLONS PER FT.	TUBING SUPPORT
LOW PRESSURE STEEL TUBING								
5/8"	0.035	0.625	0.555	0.242	2500	0.221	0.0126	8 ft. O.C.
3/4"	0.035	0.750	0.680	0.363	2100	0.267	0.0188	8 ft. O.C.
1"	0.049	1.000	0.902	0.639	2200	0.498	0.0332	8 ft. O.C.
Tubing conforming to SAE J525 and J536 specifications								
HIGH PRESSURE STEEL TUBING								
5/8"	0.083	0.625	0.459	0.166	8100	0.480	0.0086	8 ft. O.C.
3/4"	0.095	0.750	0.560	0.246	7700	0.665	0.0128	8 ft. O.C.
1"	0.120	1.000	0.760	0.454	7250	1.130	0.0236	8 ft. O.C.
Tubing conforming to SAE J525 and J536 specifications								
LOW PRESSURE SCHEDULE 40 STEEL PIPE								
1/2"	0.109	0.840	0.620	0.304	640	0.850	0.00158	
3/4"	0.113	1.050	0.824	0.533	560	1.130	0.0277	8 ft. O.C.
1"	0.133	1.315	1.049	0.864	490	1.678	0.0449	8 ft. O.C.
1 1/4"	0.140	1.660	1.380	1.496	440	2.272	0.0777	8 ft. O.C.
1 1/2"	0.145	1.900	1.610	2.036	420	2.717	0.1058	
LOW PRESSURE TYPE "L" COPPER TUBING								
1/2"	0.040	0.625			613	0.285		
3/4"	0.045	0.875	0.660	0.342	495	0.455		8 ft. O.C.
1"	0.050	1.125	0.900	0.636	420	0.655		8 ft. O.C.
1 1/4"	0.055		1.140	1.020	373	0.884		8 ft. O.C.
1 1/2"	0.060	1.625	1.380	1.495	347	1.140		
LOW PRESSURE TYPE "M" COPPER TUBING								
1/2"	0.028							
3/4"	0.032	0.875	0.686	0.369	346	0.328		8 ft. O.C.
1"	0.035	1.125	0.930	0.679	286	0.465		8 ft. O.C.
1 1/4"	0.042	1.375	1.166	1.067	287	0.682		8 ft. O.C.
1 1/2"	0.049	1.625	1.527	1.831	282	0.940		

The following viscosity information is provided as a general guide to help you determine which pump would be most suitable for your application. It is also helpful in determining consequences of changes in temperature and how it will affect system performance. Please contact Liquidynamics if you need help in choosing equipment for your specific application and environment.

Technical information provided in the plumbing chart is a composite of generally available industry information and is meant to be used as a guide only. For specific information pertaining to your installation please contact your plumbing supplier.

TEMPERATURE		100 F	90 F	80 F	70 F	60 F	50 F	40 F	30 F	20 F	10 F	0 F
Fluid	ISO No.	38 C	32 C	27 C	21 C	15 C	10 C	4 C	-1 C	-7 C	-12 C	-18 C
A.T.F		35	44	56	72	95	127	176	250	366	544	872
5w-20		46	59	76	101	136	188	268	394	598	944	1557
10 w	32	37	49	64	87	122	176	263	407	659	1120	2012
5w-30		61	78	101	134	182	252	359	528	801	1262	2070
Hydraulic	46	46	61	82	114	163	241	370	592	995	1763	3319
10w-30		70	91	121	165	230	331	491	755	1205	2010	3517
20w	68	68	92	127	181	266	405	640	1059	1843	3392	6651
30w	100	100	135	187	267	392	596	940	1547	2670	4854	9364
10w-40		97	126	168	228	317	454	669	1017	1605	2635	4523
15w-40		123	164	223	311	445	656	998	1575	2585	4437	7999
40w	150	128	178	253	370	562	887	1457	2510	4555	8765	18015
20w-50		164	222	308	440	645	976	1530	2494	4243	7575	14266
80w-90		143	198	282	412	622	975	1591	2717	4880	9275	18770
50w	220	226	321	470	709	1110	1807	3074	5491	10358	20769	44595
80w-140		263	359	502	720	1062	1615	2542	4152	7068	12596	23621
90w gear	320	331	479	713	1099	1757	2926	5099	9346	18121	37417	82894
140w gear	460	479	702	1060	1658	2693	4557	8077	15065	29745	62574	141305
#2 grease					60,000							
Peanut Butter					250,000							

Numbers shown are absolute viscosity in centipoise (In this case; centipoise = centistokes x 0.9)

Grease is a thixotropic fluid: a fluid whose viscosity decreases as shear rate or agitation increases



LIQUIDYNAMICS™

2311 S. Edwards
Wichita, KS 67213

Toll Free: 800-894-3572
Phone: 316-943-5477
Fax: 316-943-4760

www.liquidynamics.com
E-mail: productinfo@liquidynamics.com

